HS2

December 2024

Air Quality and Dust Monitoring Monthly Report – December 2024

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.

recycle

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 November 2024 and December 2024 respectively.

1.1.2 Figure 1 to Figure 4 in Appendix A present 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 worksites, as presented in Appendix A, Figure 1 to Figure 4, include:

- Gatemead and West Ruislip Embankment, Breakspear Road South and River Pinn Underbridge, concreting, groundworks and materials management;
- Harvil Road realignment groundworks, materials management, concreting and shuttering works at Copthall North;
- West Ruislip Portal materials management (tunnel boring machine arisings);
- South Ruislip vent shaft construction, ground works, concrete works and materials management;
- Northern Sustainable Placement Area (NSPA) landscaping, seeding and planting;
- Southern Sustainable Placement Area (SSPA) seeding, planting and demobilisation.

CVV Dews Lane

- North Moorhall Compound: operation;
- HOAC Compound: operation
- Haul Road and Jetty Maintenance: operation and maintenance;
- Ground Investigation works;
- Pier Construction: arch form deck piers – drilling and concrete works;
- ATFS: site preparation, installation of ducts and earthworks, bulk earthworks fill, permanent drainage, soiling and seeding, ATFS access road construction;
- Pumping Water Management: pumping water management ch 25.900 to 29.500;
- Satellite Welfares;
- Generator Farms;
- South Abutment: earthworks, drainage works, South Abutment construction stage 2, South Abutment construction stage 2 – earthworks, yard supporting activities, soiling and seeding works, embankment FRC works;
- Environmental Maintenance;
- Stockpiling Activity HOAC: stockpile of material coming from other sites;

- River Colne Crossing: Emergency removal of obstruction to RC crossing;
- Launching Girder and Deck Works: span segmental erection with launching gantry, shoring steel structure erection and dismantling, external PT, internal PT grouting, crane assembly/disassembly and launching girder dismantling;
- Deck Finishes Logistics: preparation and operation of storage yards and installation of below deck access provision, traffic management on the deck surface, installation of parapets, noise barriers, troughs, pipes, steel works and other minor material to the storage yards and deck, installation of access at the top of the deck (HAKI stairs) and finishes support plant;
- Deck Finishes – On-deck Construction: construction of robust kerbs, installation of parapets, construction of concrete stitch, filling of voids and top openings, verge deck waterproofing, trough installation, noise barrier installation, deck waterproofing and SFRC slab construction;
- Deck Finishes – In-deck Construction: concrete works within the deck, drainage works within the deck, steel works within the deck, and structural health monitoring;
- Landscaping: advanced works including removal of cofferdams, early earthworks including ground profiling and cut, initial ground drainage including manhole chamber, early soil placement, hardstanding removal and tree removal & vegetation clearance;
- Jetty Removal and associated earthworks: Earthworks excavation, backfill, and landscaping, jetty removal, cutting piles and steelworks; and
- Gravel Islands.

CVV Moorhall Road

- North Moorhall Compound: operation;
- HOAC Compound: operation;
- Haul Road and Jetty Maintenance: operation and maintenance;
- Ground Investigation works;
- Pier Construction: arch form deck piers – drilling and concrete works;
- ATFS: site preparation, installation of ducts and earthworks, bulk earthworks fill, permanent drainage, soiling and seeding, ATFS access road construction;
- Pumping Water Management: pumping water management ch 25.900 to 29.500;
- Satellite Welfares;
- Generator Farms;
- South Abutment: earthworks, drainage works, South Abutment construction stage 2, South Abutment construction stage 2 – earthworks, yard supporting activities, soiling and seeding works, embankment FRC works;
- Environmental Maintenance;
- Stockpiling Activity HOAC: stockpile of material coming from other sites;
- River Colne Crossing: Emergency removal of obstruction to RC crossing;
- Launching Girder and Deck Works: span segmental erection with launching gantry, shoring steel structure erection and dismantling, external PT, internal PT grouting, crane assembly/disassembly and launching girder dismantling;

- Deck Finishes Logistics: preparation and operation of storage yards and installation of below deck access provision, traffic management on the deck surface, installation of parapets, noise barriers, troughs, pipes, steel works and other minor material to the storage yards and deck, installation of access at the top of the deck (HAKI stairs) and finishes support plant;
- Deck Finishes – On-deck Construction: construction of robust kerbs, installation of parapets, construction of concrete stitch, filling of voids and top openings, verge deck waterproofing, trough installation, noise barrier installation, deck waterproofing and SFRC slab construction;
- Deck Finishes – In-deck Construction: concrete works within the deck, drainage works within the deck, steel works within the deck, and structural health monitoring;
- Landscaping: advanced works including removal of cofferdams, early earthworks including ground profiling and cut, initial ground drainage including manhole chamber, early soil placement, hardstanding removal and tree removal & vegetation clearance;
- Jetty Removal and associated earthworks: Earthworks excavation, backfill, and landscaping, jetty removal, cutting piles and steelworks; and
- Gravel Islands.

1.1.5 Fourteen (14) dust monitors are installed around these worksites, where works are underway. These sites returned a low 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 5. 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_{10} concentrations of 190µg/m^3, 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 multiple monitors due to:

- Sixense were granted access to fix CVV-AQMP4 on the 5th of December and it has been running since then.
- Data capture for monitor, AQ047, AQ048 and AQ053 was below 90% (all 0% respectively) due to the monitors being powered by hydrogen generators and needing replenishing/exchange of hydrogen cylinders. Access to all three monitors to exchange gas cylinders is now difficult due to haul roads being removed following

completion of material placement works. The three monitors are to be removed in January 2025.

- Data capture for monitor, AQ052, AQ056 and AQ057 was below 90% (26.6%, 45.2% and 23.3%) due to a hardware fault with the monitors with new parts needed from the supplier.
- Date capture for monitor AQ033 was below 90% (18.8%) due to the monitor running out of hydrogen gas, recharged following the Christmas break.

1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO_2) 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.

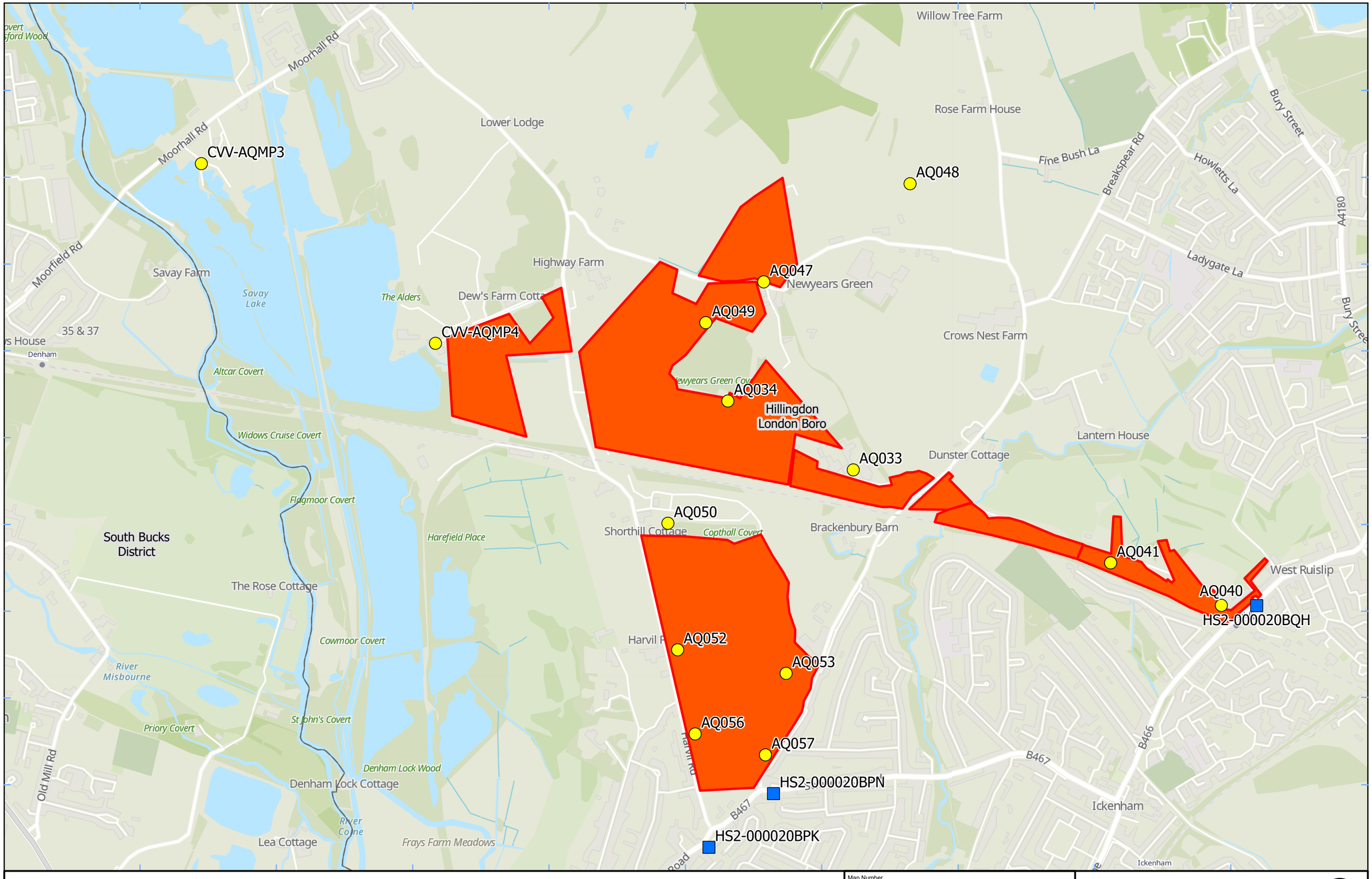
1.1.11 Diffusion tube monitoring results are as provided from the laboratory analysis, and therefore still require various analysis and adjustments to be undertaken. Final corrected results will be presented and described in the annual report. However, based on results to date, no unexpected values were recorded during the monitoring period.

1.1.12 NO_2 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 (December 2024).

Appendix A – Worksites and Monitoring Locations

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



Legend

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

Map Number

Map Name

Worksite & Monitoring Locations In LBH (Sheet 1)

London Borough of Hillingdon

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

Scale at A3: 1:12,000

Metres

Doc Number:

Date: 19/12/24

HS2-000020BNT

HS2-000020BNV

HS2-000020BP8

Hillingdon London Boro

Harrow London Boro

Ealing London Boro

Legend

Diffusion Tube

District Borough Unitary Boundaries

Worksite

Map Number

Map Name

Worksite and Monitoring Locations In LBH (Sheet 2)

London Borough of Hillingdon

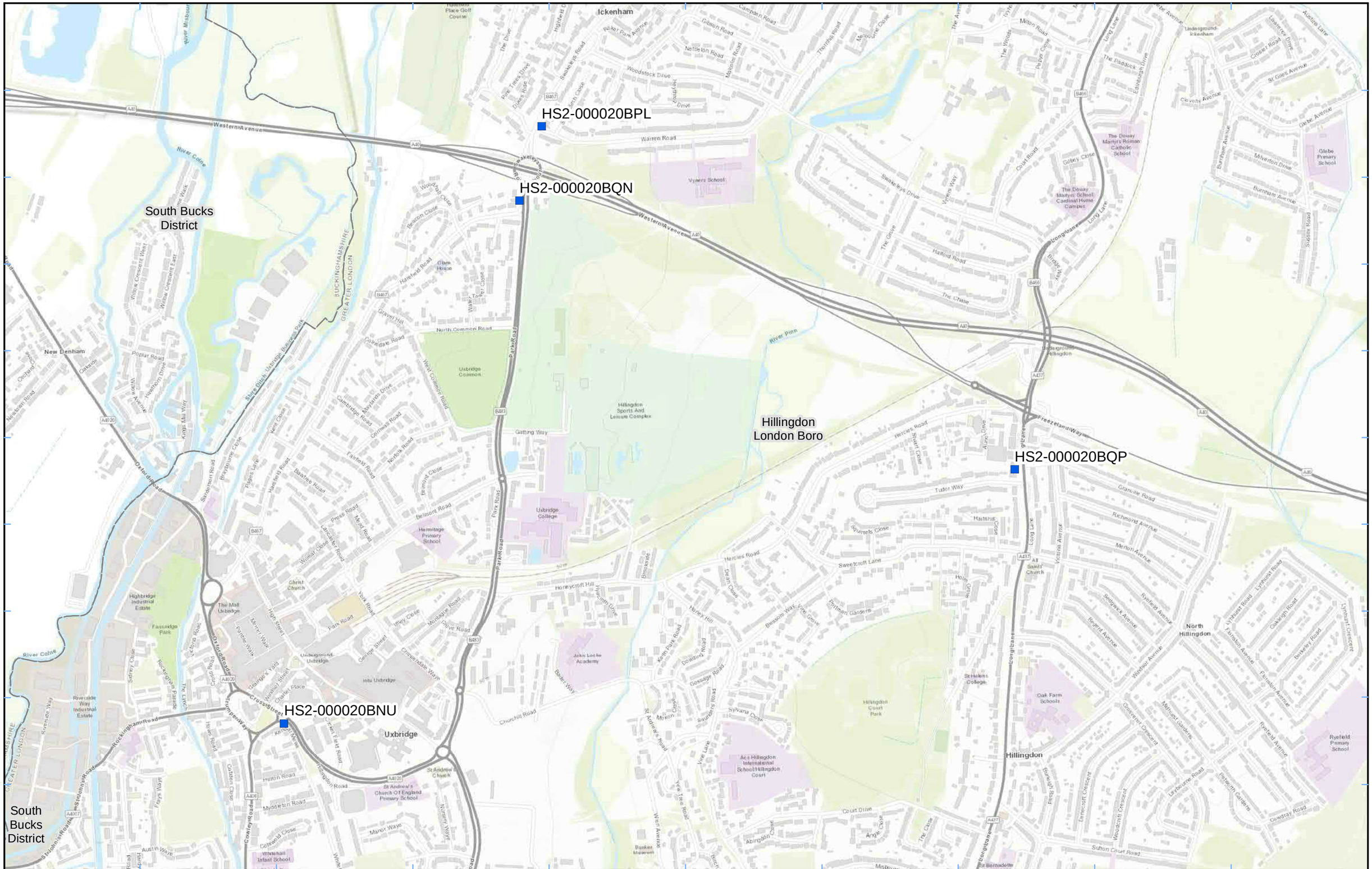
Scale at A3: 1:10,000

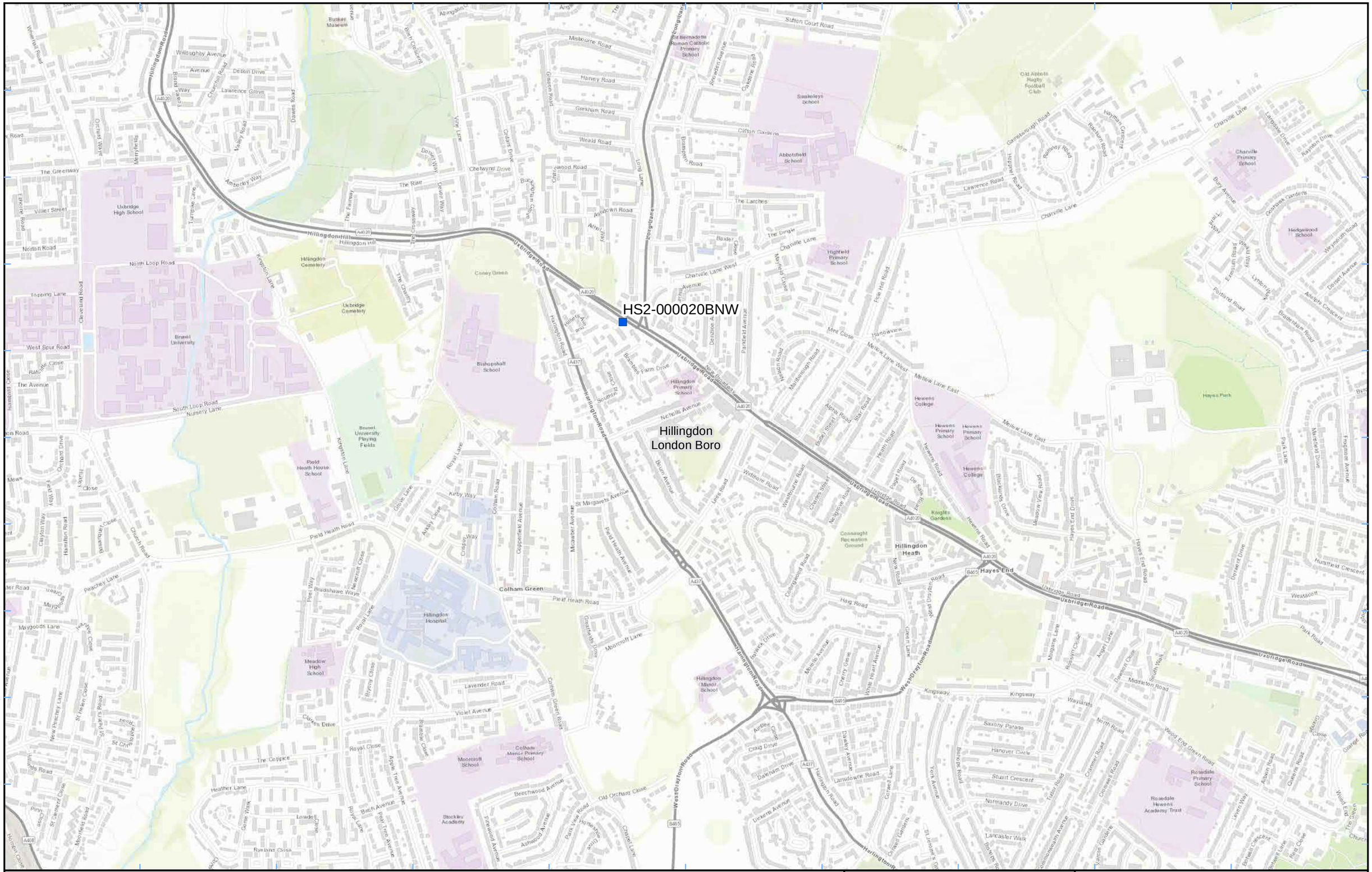
0 100 200 300 400

Metres

Doc Number:

Date: 08/12/20


HS2-000020BPL
HS2-000020BQN
HS2-000020BQP
HS2-000020BNU
South Bucks District
Hillingdon London Boro
South Bucks District
Ickenham
Uxbridge
Hillingdon
North Hillingdon
New Denham
Western Avenue
Warren Road
North Common Road
Park Road
Uxbridge College
Hillingdon Sports And Leisure Complex
Uxbridge Common
Vyners School
The Douay Martyrs Roman Catholic School
The Douay Martyrs School Cardinal Hume Campus
Oak Farm Schools
St Helens College
Hillingdon Court Park
John Locke Academy
Ace Hillingdon International School Hillingdon Court
Hermitage Primary School
Whitehall Infant School
St Andrew's Church Of England Primary School
Ryefield Primary School
Underground Uxbridge
Underground Ickenham
Underground Hillingdon
intu Uxbridge
Fassnidge Park
Highbridge Industrial Estate
Riverside Way Industrial Estate
Frays Farm Meadows
Bunker Museum
River Colne
River Pinn
Stockley Park
Long Lane
Freezeland Way
Rickmansworth Road
Oxford Road
Harefield Road
Swakeleys Road
Hillingdon Road
Uxbridge Road
Park Road
Colham Green Road
Sweetcroft Lane
Court Drive
Tudor Way
Merlin Avenue
Granville Road
Richmond Avenue
Ryefield Avenue
Sidmouth Drive
Sidmouth Avenue
Regent Avenue
Windsor Avenue
Elmsdale Avenue
Oakleigh Road
Brackley Road
Lyndhurst Road
Lyndhurst Crescent
Cleveley Avenue
Glebe Avenue
Glebe Primary School
Burnham Avenue
Milverton Drive
Sidcup Road
Sidcup Court Road
Coventry Road
Cowley Road
Cowgate Road
Leyburne Road
Pulborough Gardens
Mulberry Gardens
Woodcroft Crescent
Underscroft Crescent
Glastonbury Crescent
Parkfield Crescent
Parkfield Avenue
Pembroke Gardens
Pembroke Road
Pembroke Avenue
Elmsdale Avenue
Victoria Avenue
Merlin Avenue
Sweetcroft Lane
Hercies Road
Stuart Close
Dean Close
Honeycroft Hill
Keith Park Road
Dowding Road
Gossage Road
Sylvana Close
Saunders Road
St Andrew's Road
Vine Lane
York Tree Road
Wren Avenue
Abingdon Close
Angle Close
The Close
Squirrels Close
Harcourt Close
Hillingdon Road
Uxbridge Road
Park Road
Belmont Road
Belmont Close
Cambridge Road
Cornwall Road
Norfolk Road
Fairfield Road
Bayhurst Close
Kent Close
Sunderland Road
Pages Lane
Handfield Road
Bawtree Road
Press Road
Manor Road
Lancaster Road
Wimar Close
Christ Church
St Andrew's Church
The Mall Uxbridge
High Street
Mercer Walk
Pavilion Way
Windsor Street
Charter Place
Chequers Way
George Street
Cross Street
Trumpeter Way
Vine Street
Chester Field Road
Hallon Road
Middleton Road
Manor Way
Nursery Way
Cotswold Close
Austin Way
Fray Way
Sidney Close
Riverside Way
Stockley Road
Stockley Close
Swan Road
Bridge Road
Bridge Close
Bury Street
Bury Street West
Bury Street East
Willow Crescent West
Willow Crescent East
Poplar Road
Newdown Road
Oakside
Kingsmill Way
Hawthorn Drive
Willow Avenue
Shire Ditch
Uxbridge Boating Lake Park
Beacon Close
Woodhall Close
Clare House
Harefield Road
Gravel Hill
Water Tower Close
Colnedale Road
West Common Road
Cambridge Road
Raynton Drive
Cornwall Road
Norfolk Road
Fairfield Road
Belmont Close
Belmont Road
Hermitage Primary School
Park Road
Getting Way
Uxbridge College
Hillingdon Sports And Leisure Complex
Uxbridge Common
River Pinn
Hercies Road
Stuart Close
Dean Close
Honeycroft Hill
Sweetcroft Lane
Court Drive
Tudor Way
Harcourt Close
Squirrels Close


HS2-000020BNW
Hillingdon
London Boro
Uxbridge Road
Hillingdon Hill
Harlington Road
West Drayton Road
Hillingdon Cemetery
Uxbridge Cemetery
Coney Green
Brunel University
Bishopshalt School
Hillingdon Primary School
Uxbridge High School
Colham Green
Hillingdon Hospital
Meadow High School
Moorcroft School
Colham Manor Primary School
Stockley Academy
Hillingdon Manor School
Field Heath House School
Brunel University Playing Fields
Hillingdon Heath
Hayes End
Connaught Recreation Ground
Knights Gardens
Saxonwell Primary School
Abbotsfield School
Highfield Primary School
Charville Primary School
Hedgewood School
Roseidale Primary School
Roseidale Heweni Academy Trust
Hewens College
Hewens Primary School
Hayes Park
Old Abbotsians Rugby Football Club
St Bernadette Roman Catholic Primary School
Bunker Museum
Hillingdon Road
Uxbridge Road
Harlington Road
West Drayton Road
Hillingdon Hill
Field Heath Road
Colham Green
Hillingdon Heath
Hayes End
Uxbridge Road
Harlington Road
Kingsway
Uxbridge Road
Uxbridge Road
Uxbridge Road

Appendix B – Dust Monitoring Results

Table 1: Dust Monitoring Locations and Results

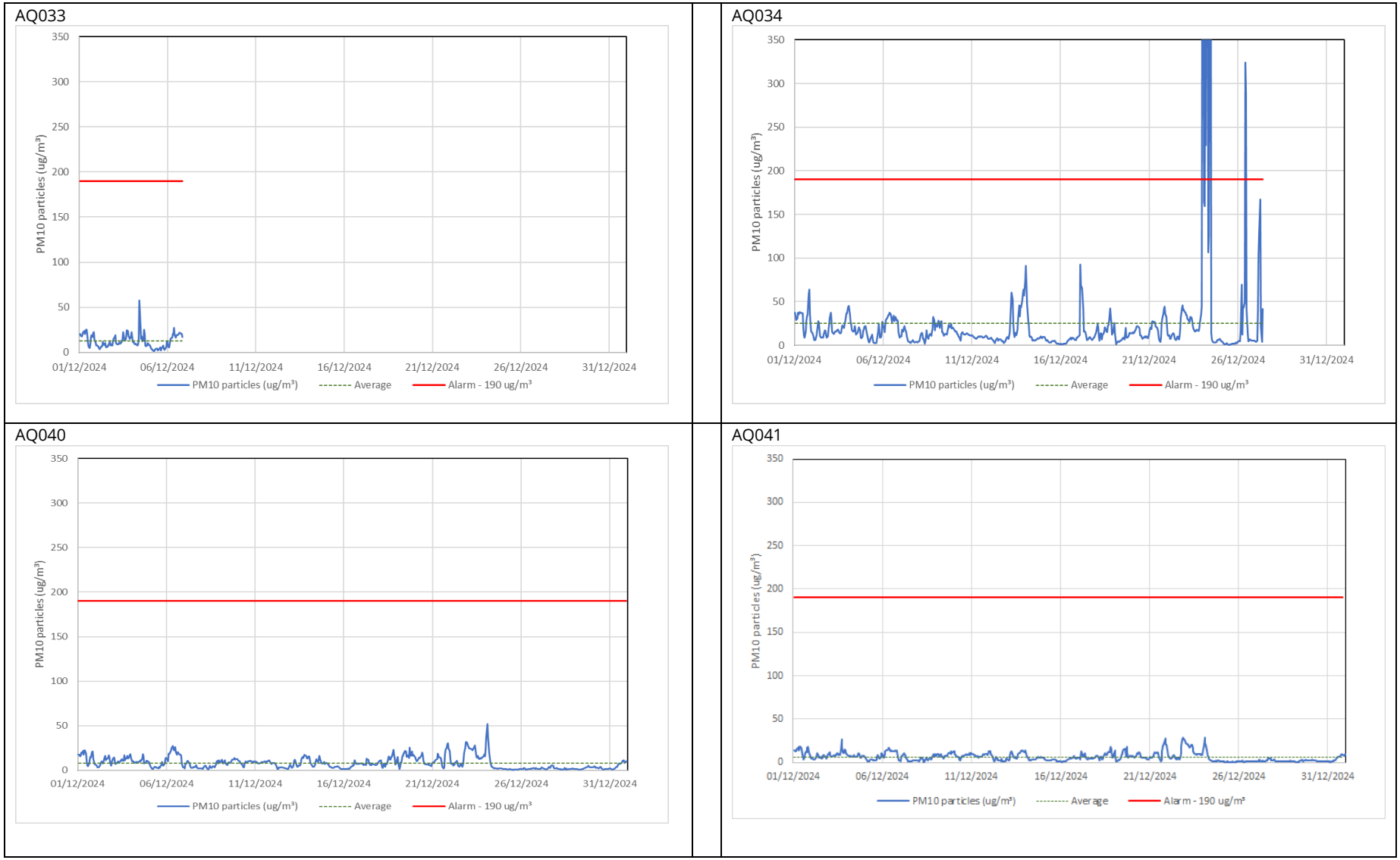
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM_{10} concentration ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1- hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
AQ033	507045, 187352	Breakspear Road South	M	Yes	N	12.6	1.3	57.7	0	18.8
AQ034	506608, 187592	Copthall Cutting	L	Yes	N	24.8	0.6	913.8	10	85.2
AQ040	508328, 186880	West Ruislip Golf Course	M	Yes	N	8.3	0.4	51.8	0	99.9
AQ041	507942, 187028	West Ruislip Portal	M	Yes	N	6.4	0.3	29.1	0	100.0
AQ047	507942, 188007	West Ruislip Portal	M	Yes	N	-	-	-	0	-
AQ048	507243, 188349	Northern Sustainable Placement Area	M	Yes	N	-	-	-	0	-
AQ049	506531, 187865	Copthall North, Ancient Woodland	M	Yes	N	7.9	0.3	54.5	0	97.2
AQ050	506399, 187166	Copthall South Compound	H	Yes	N	7.2	0.4	34.9	0	100.0
AQ052	506433, 186725	Southern Sustainable Placement Area	H	Yes	N	5.6	1.0	23.0	0	26.6
AQ053	506811, 186643	Southern Sustainable	H	Yes	N	-	-	-	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 ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1- hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
		Placement Area								
AQ056	506494, 186432	Southern Sustainable Placement Area	M	Yes	N	8.1	1.0	23.0	0	45.2
AQ057	506739, 186359	Southern Sustainable Placement Area	M	Yes	N	9.2	2.0	31.0	0	23.3
CVV-AQMP3	504773, 188419	On the eastern boundary along south side of Moorhall Road	M	Yes	Y	6.2	1.0	49.0	0	99.3
CVV-AQMP4	505589, 187793	On the western boundary of HOAC at Dews Lane	M	Yes	Y	5.7	1.0	38.0	0	79.4

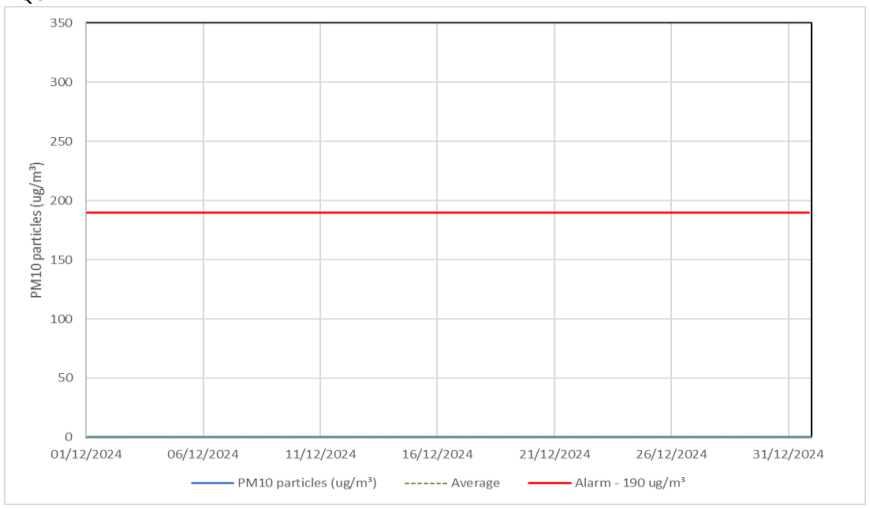
Table 2: Summary of exceedances during period (December 2024)

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ034	23/12/2024 23:01 – 00:00; 479.4 µg/m^3 24/12/2024 00:01 – 01:00; 913.8 µg/m^3 03:01 – 04:00; 356.7 µg/m^3 04:01 – 05:00; 229.5 µg/m^3 05:01 – 06:00; 837.8 µg/m^3 06:01 – 07:00; 481.9 µg/m^3 09:01 – 10:00; 555.9 µg/m^3 10:01 – 11:00; 597.7 µg/m^3 26/12/2024 09:01 – 10:00; 324.2 µg/m^3 10:01 – 11:00; 290.6 µg/m^3	The triggers are considered to be caused by the generator running out of hydrogen gas during the Christmas shutdown causing a loss of power to the monitor and spikes in data as the pump and heater stopped December.	Monitor and generator are to be serviced in January 2025.

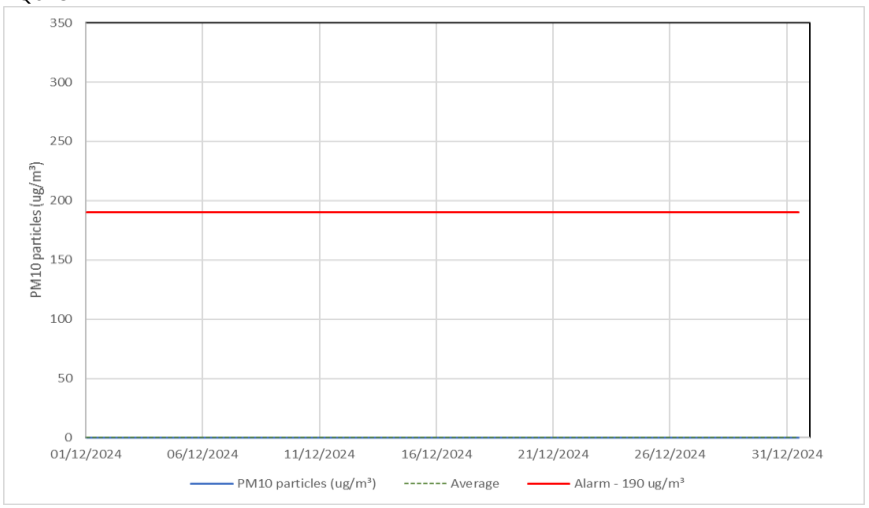
Figure 5: Construction dust 1-hour mean indicative PM_{10} concentration for all dust monitors



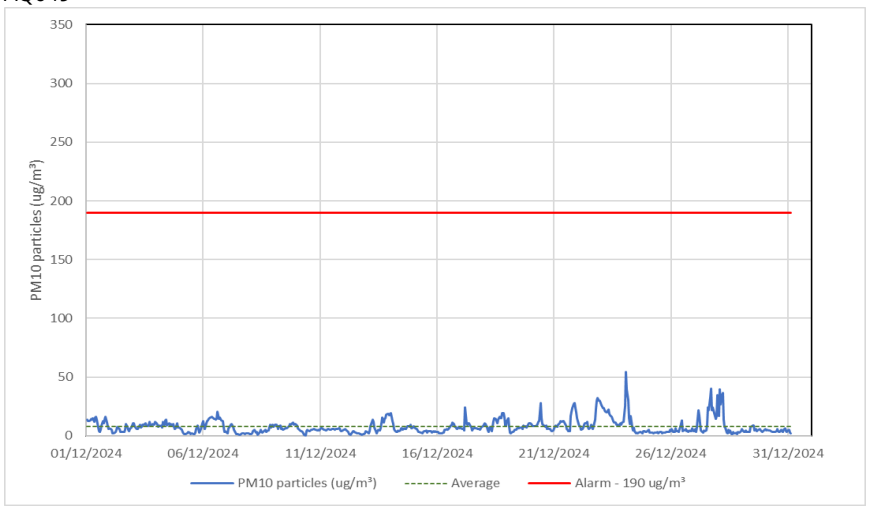
AQ047



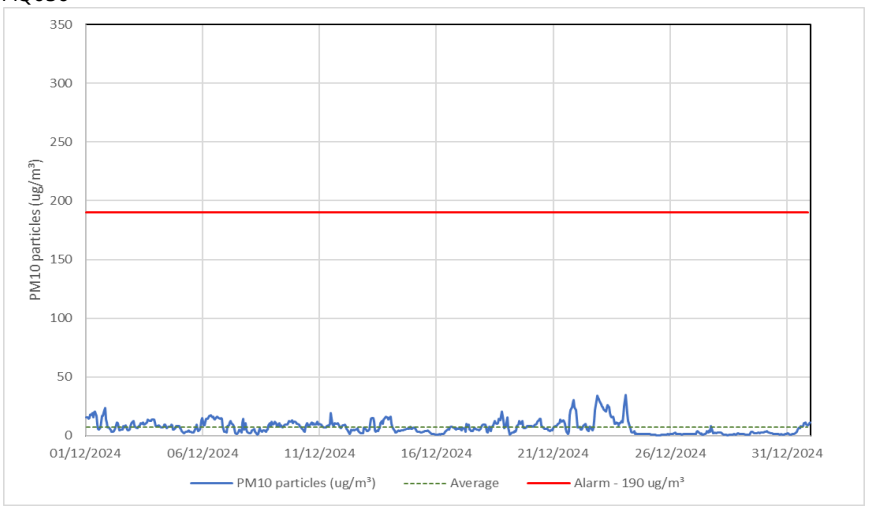
AQ048



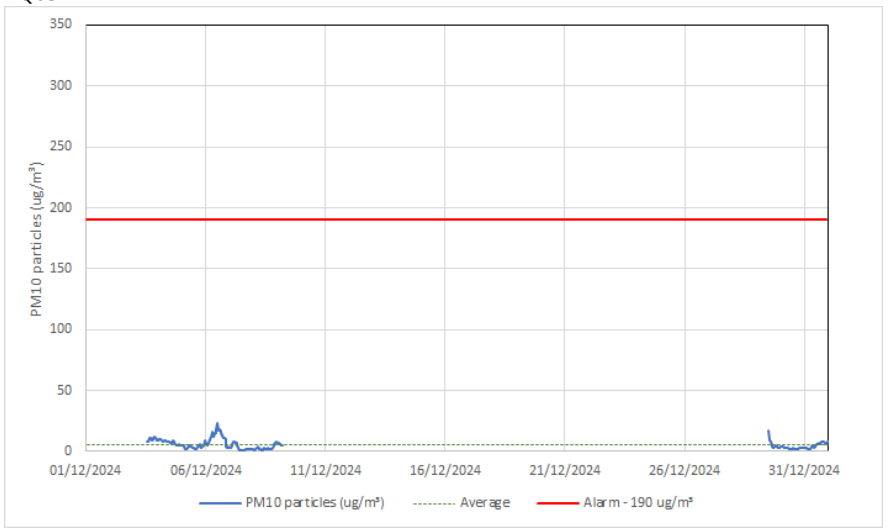
AQ049



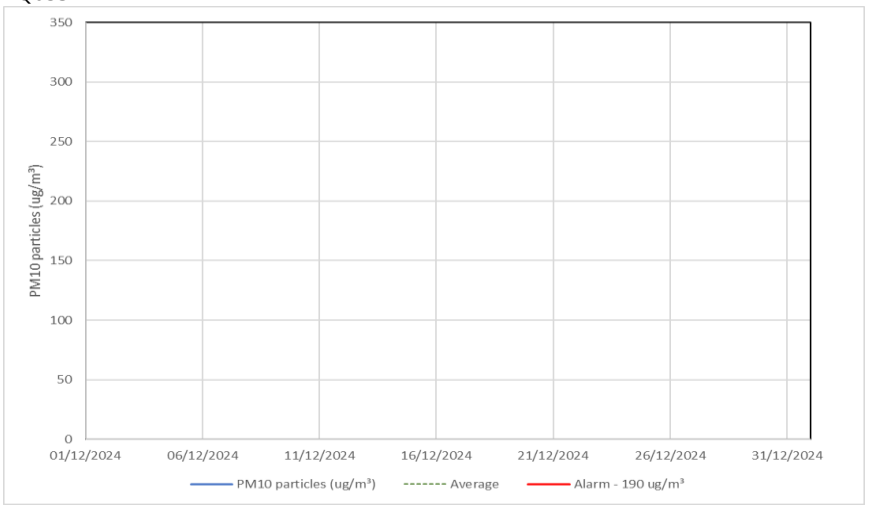
AQ050



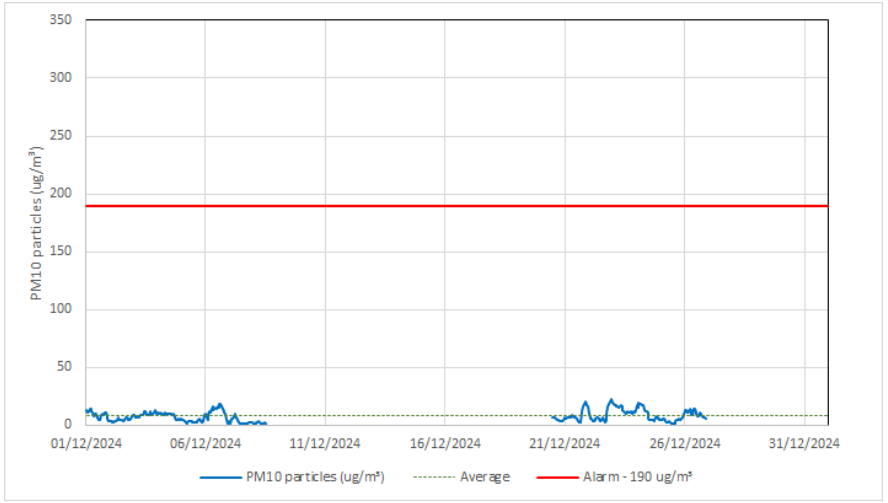
AQ052



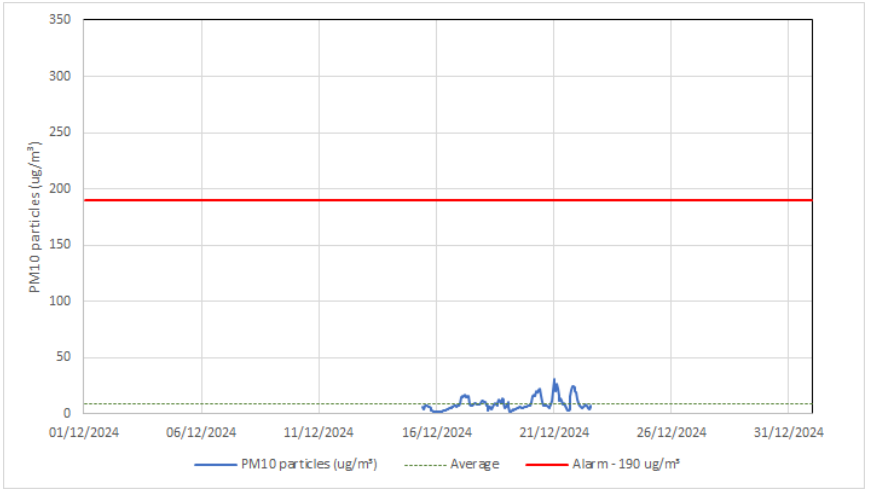
AQ053



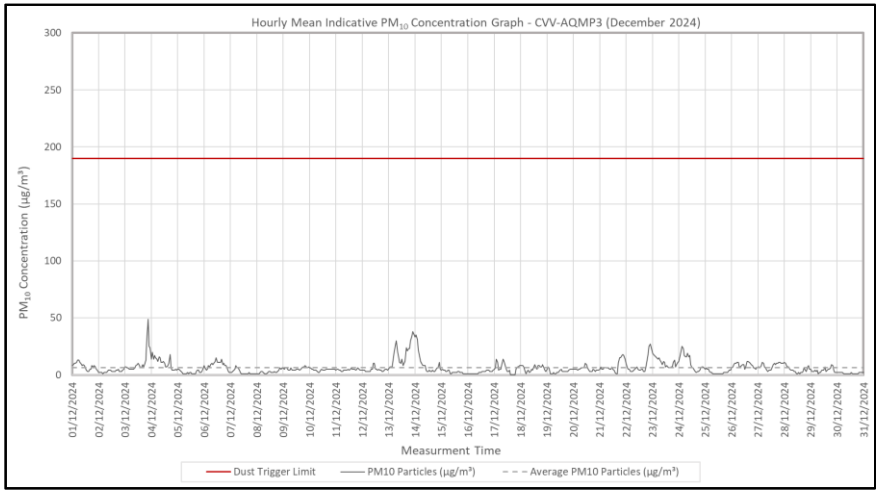
AQ056



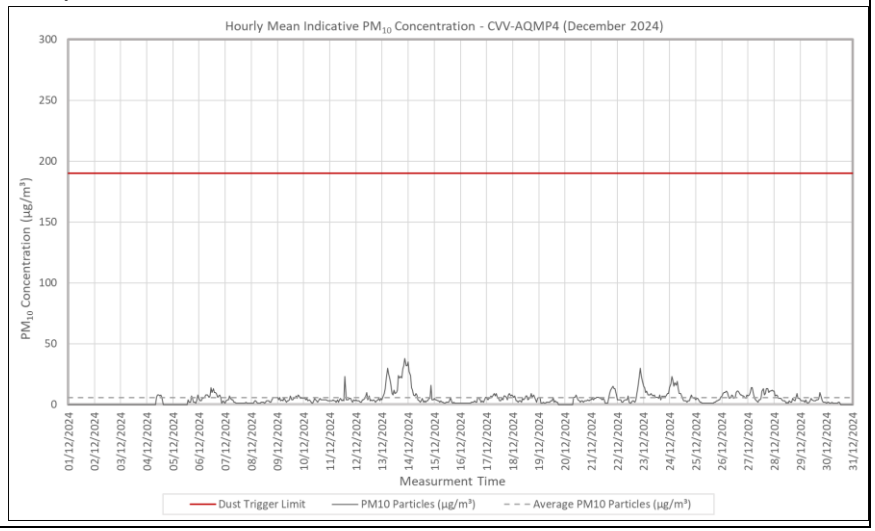
AQ057



CVV-AQMP3



CVV-AQMP4



Appendix C – Air Quality Monitoring Results

Table 3: NO_2 monitoring locations around highways, NO_2 concentrations and monthly monitoring results with running mean for 2024 (µg/m^3)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean[1,2]
HS2-000020BNT	Lamp post on Pembroke Road	509678, 187214	22	22	21	14	16	14	Tube Missing	11	16	21	21		18
HS2-000020BNU	Cowley Road sign post at junction with Hillingdon Road	505492, 183926	44	36	39	33	Tube Missing	Tube Missing	33	32	33	35	33		35
HS2-000020BNV	High Street sign post at junction with Pembroke Road	509439, 187117	32	37	31	27	31	32	28	29	19	36	37		31
HS2-000020BNW	Signpost on A4020 Uxbridge Road at junction with Long Lane	507365, 182687	37	Tube Missing	27	27	34	24	27	26	33	40	29		30
HS2-000020BPK	Lamp post in crescent off Swakeleys Road	506542, 186037	26	Tube Missing	Tube Missing	24	Tube Missing	Tube Missing	26	24	31	30	33		28

[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.*

[2] *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[12]
HS2-000020BPL	Warren Road sign post on corner of Swakeleys Road and Warren Road	506240, 185660	35	34	28	25	28	27	14	26	27	32	24		27
HS2-000020BPN	Lamp post on B467	506767, 186224	33	35	29	24	28	Tube Missing	Tube Missing	26	28	35	36		30
HS2-000020BQH	Lamp post on High Road Ickenham	508451, 186879	42	35	Tube Missing	30	34	33	34	31	36	39	40		35
HS2-000020BQN	Lamp post on Park Road	506176, 185444	Tube Missing	39	31	29	44	22	27	25	25	42	33		32
HS2-000020BQP	Sign post on Long Lane	507614, 184663	37	29	33	26	Tube Missing	25	25	19	29	32	30		29
HS2-000020BP8	Triplicate site at South Ruislip roadside automatic monitoring station	510858, 184916	31	29	25	22	23	20	20	19	23	30	20		24