

December 2020

Air Quality and Dust Monitoring Monthly Report – December 2020 London Borough of Camden

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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 Camden (LBC) during November and December 2020 respectively.
- 1.1.2 Figure 1 to Figure 4 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 enabling works commenced within the LBC during December 2017 and is expected to be completed by July 2021. The next concurrent phase of construction works commenced in November 2019 and is expected to be completed by 2025. The current and planned worksites, include:

Costain Skanska Joint Venture (CSjv)

- Compound and Power Signal Box mobilisation, site set up and pre-demolition surveys;
- Site Office and Welfare at 110-122 Hampstead Road;
- Archaeological dig at St James' Gardens, groundworks and materials management and; utilities diversion works. Scaffolding works for work site enclosure; and
- Euston Street Walkden and Wolfson House demolition and groundworks.

Skanska Costain Strabag Joint Venture (SCSjv)

- Adelaide Road Vent Shaft Site set up and vegetation clearance;
- Vehicle Holding Area excavation, groundworks and concrete slab works;
- Site office and welfare on Granby Terrace / Hampstead Road;
- Euston Scissor Cut piling operations and materials management;
- Euston Throat Retained Cut groundworks and piling operations utilities diversion works and materials management; and
- Hampstead Road Bridge mobilisation and site setup.

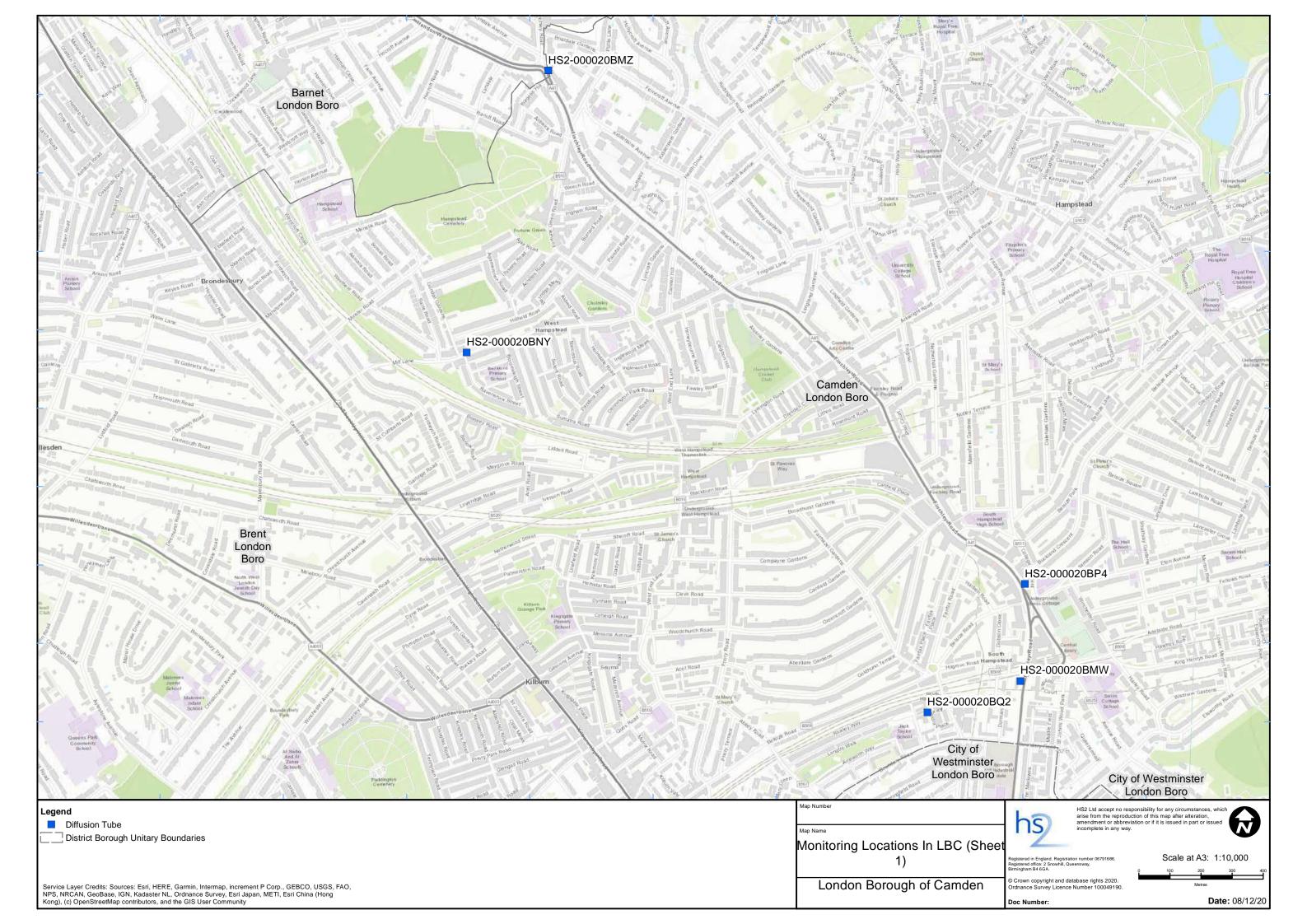
Mace Dragados Joint Venture (MDjv)

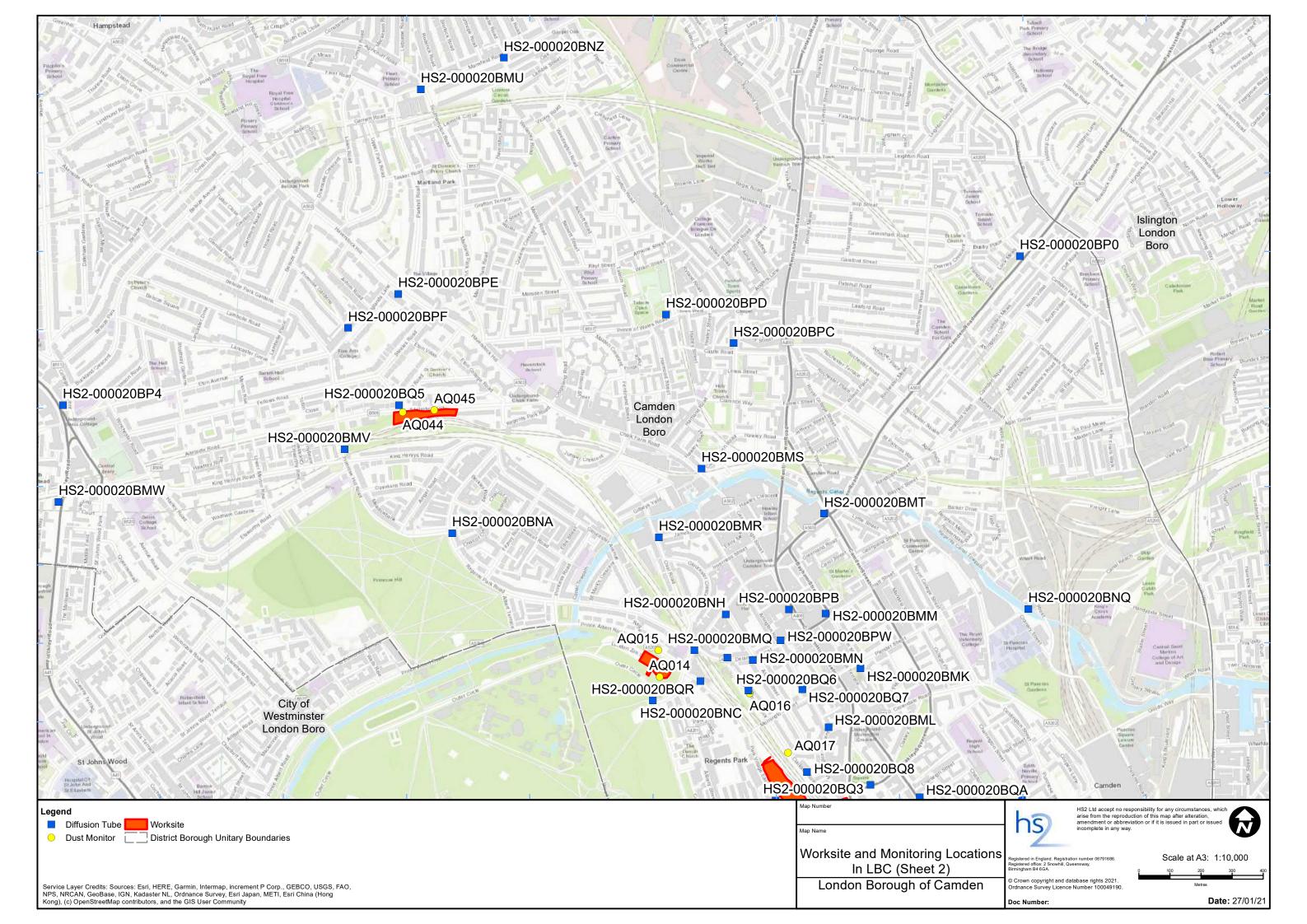
- Piles installation in area 4 (Ibis Hotel);
- Guide wall installation in areas 1 & 2 (Hampstead Road);
- Preparation of new Site office and welfare at Maria Fidelis (internal Installation fire system, furniture, etc.);

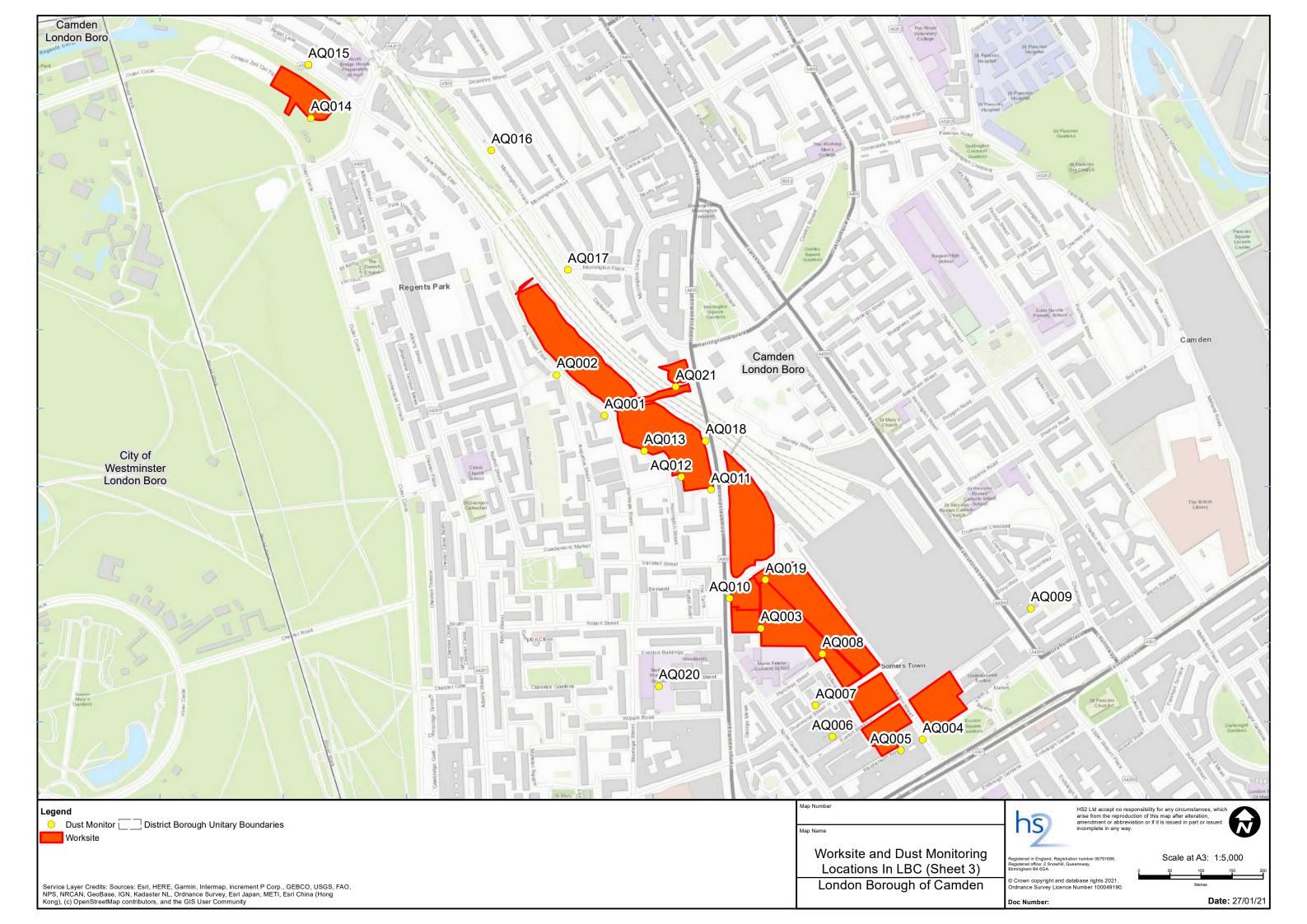
- Props alteration area 4 (Ibis Hotel); and
- Monitoring instrumentation installed at props locations (Ibis Hotel area).
- 1.1.5 Twenty- three (23) dust monitors are installed around worksites, where demolition, groundworks and materials management are underway. These sites returned a medium or high 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 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 There were multiple dust trigger alerts recorded during the monitoring period (December 2020). However, these alters occurred predominantly outside of site opening hours and are not believed to be related to HS2 site activities but rather were most likely caused by heavy fog experienced during this time, or the monitor heated inlet errors. These trigger alerts are discussed further in Appendix B, Table 2. All other results were in line with expected ranges.
- 1.1.9 Data capture for monitors AQ008, AQ011 and AQ019 was below 90% for the month of December 2020 due to power loss to the monitors over the course of the month. This is an ongoing technical issue with the communication hardware for AQ011 which is operating, however is under investigation and will be corrected as soon as possible.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO₂) is undertaken at sixty-five (65) locations around highways within the LBC 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 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 NO₂ monitoring locations and results are presented in Appendix C, Table 3, together with the 2020 running mean.
- 1.1.13 There were (0) complaints received, relating to air quality during this reporting period (December 2020).

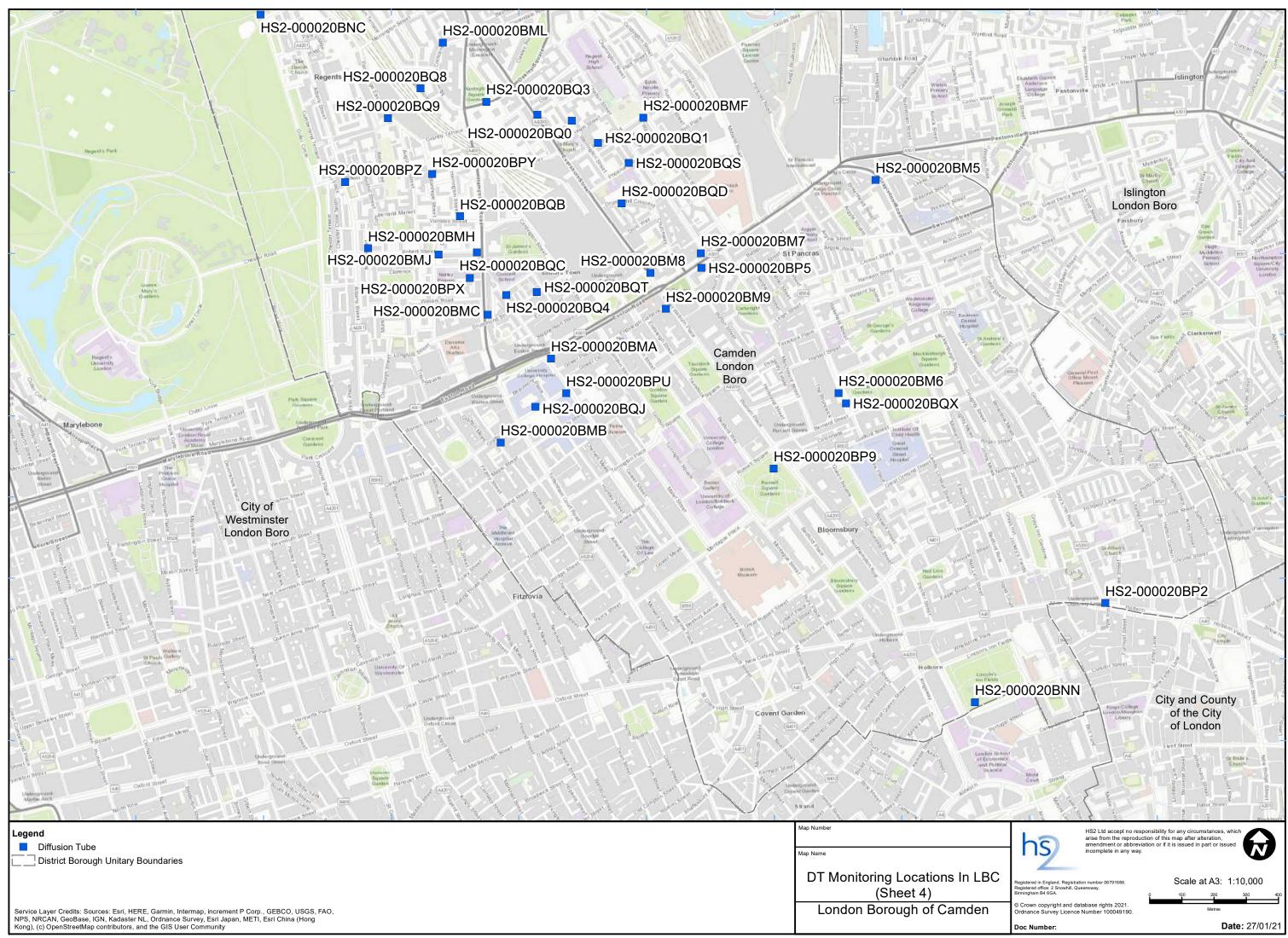
Appendix A – Worksites and Monitoring Locations

Figure 1 to Figure 4: Worksites and monitoring locations within the LBC









Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and December 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/m³)	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 (%)
AQ001	529022, 183040	Junction of Park Village East, Stanhope Street and Granby Terrace	М	Yes	Ν	10.8	1.1	204.1	1	100.0
AQ002	528945, 183105	Park Village East	М	Yes	N	9.6	1.1	200.9	1	100.0
AQ003	529273, 182698	St James' Gardens	М	Yes	N/A	12.7	1.7	108.0	0	98.9 [*]
AQ004	529533, 182519	Melton Street	н	Yes	N/A	9.8	1.2	78.9	0	100.0
AQ005	529498, 182502	Stephenson Way	н	Yes	N/A	10.5	1.1	37.5	0	100.0
AQ006	529388, 182524	Euston Street	н	Yes	N/A	9.2	0.9	27.9	0	100.0
AQ007	529361, 182574	Drummond Street	н	Yes	N/A	8.1	0.8	24.2	0	100.0
AQ008	529372, 182657	Cobourg Street	н	Yes	N/A	13.8	1.1	222.9	2	82.7**
AQ009	529707, 182730	Eversholt Street	н	Yes	N/A	10.1	1.4	30.3	0	100.0
AQ010	529223, 182746	Hampstead Road South	М	Yes	N/A	19.1	2.1	106.1	0	100.0
AQ011	529193, 182921	Hampstead Road	М	No	Ν	-	-	-	-	-

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/m³)	Maximum 1- hour PM ₁₀ concentration (µg/m ³)	Number of 1- hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
AQ012	529145, 182941	Rear of Coniston House	М	Yes	N	9.9	1.3	68.3	0	100.0
AQ013	529086, 182983	Regents Park Estate	М	Yes	N	15.4	1.6	56.4	0	100.0
AQ014	528550, 183518	Vehicle Holding Area	L	Yes	N	6.3	0.0	54.6	0	100.0
AQ015	528546, 183604	Prince Albert Road	L	Yes	N	11.7	1.3	75.0	0	100.0
AQ016	528840, 183466	Mornington Terrace North	М	Yes	N	6.9	0.7	97.9	0	100.0
AQ017	528963, 183274	Mornington Terrace South	М	Yes	N	9.2	1.1	177.3	0	100.0
AQ018	529184, 182999	Hampstead Road North	М	Yes	N	8.2	1.0	34.2	0	100.0
AQ019	529280, 182776	Park Village East (North)	М	Yes	N	9.0	0.0	103.6	0	79.6
AQ020	529109, 182605	Netley School	n/a	Yes	N/A	26.0	1.2	2656.9	9	100.0
AQ021	529136, 183086	Site compound at the Junction of Hampstead Road & Granby Terrace Bridge.	М	Yes	N	12.8	1.6	52.3	0	100.0
AQ044	527725, 184369	Adelaide Road (west)	М	Y	N	6.9	0.8	96.1	0	97.4
AQ045	527826, 184375	Adelaide Road (east)	М	Υ	N	11.3	0	226.2	1	78.8

^{*} Data loss at monitor AQ003 is due to a power cut on the 13th December.

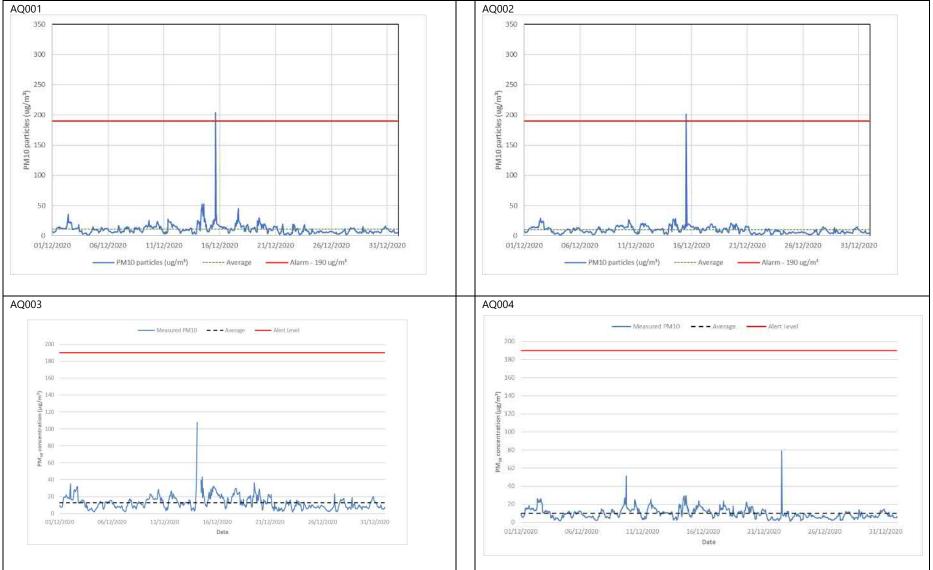
^{**} Data loss at monitor AQ008 is due to power cuts on the 13th and between the 16th and 21st December.

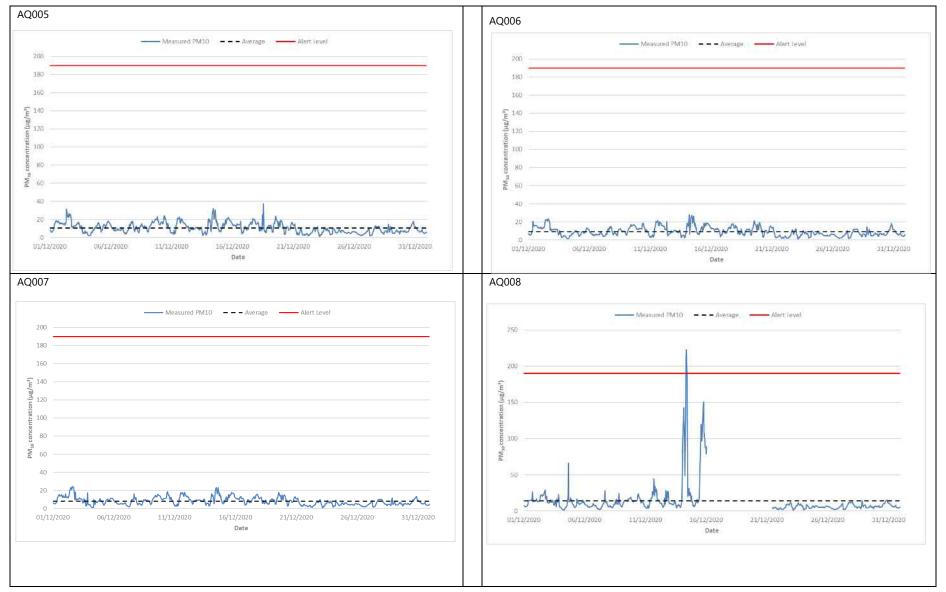
Table 2: Summary of exceedances of trigger level in December 2020

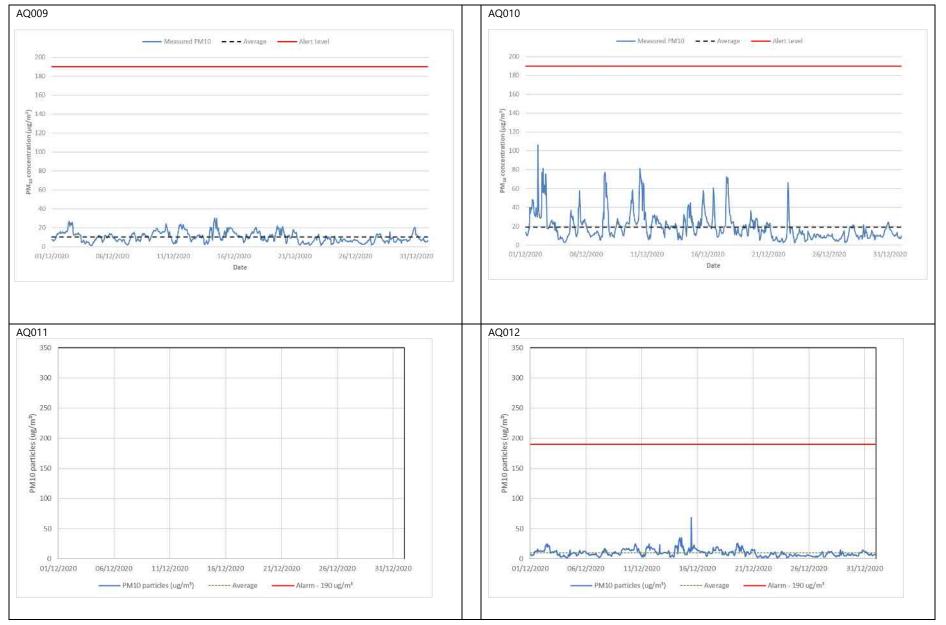
Monitoring Site ID	Period of trigger alert and concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ001	15/12/2020 14:00-15:00: 204.1 μg/m³	The monitors were undergoing service and maintenance at	
AQ002	15/12/20202 12:00-13:00: 200.9 µg/m ³	the time which was the cause of the triggers.	N/A
AQ008	14/12/20202 07:00-08:00: 209.9 µg/m ³ 14/12/20202 08:00-09:00: 222.9 µg/m ³	There was a power cut on site on Sunday 13 th December, until 10am on Monday 14 th . During that time, the monitors continued to operate on their internal battery, and thus measure and store data. However, due to no connection to the main power, the heated inlets were not operational and the communication between the monitor and AirQweb interface was interrupted. As a result, there were no alerts sent for the two exceedances which occurred at monitor AQ008 on the 14 th December. The activity logs indicates that at the time of these exceedances, no site activities were taking place due to powers issues recorded on site (construction works could not commence until 10:00am). During the day the following activities were carried out on site: Completion of piles 21 & 29 Propping removal Preparation of footpath for extension As the heated inlets were not operational until 10am when power was restored, it is thus likely the measured exceedances were erroneous, and due to water droplets being counted as particulate matter. The PM ₁₀ concentrations dropped to below the alert level from 10am, and there were no further exceedances measured by monitor AQ008.	Routine monitor maintenance, ensuring the monitors are functioning optimally as well as communication checks between the monitor and AirQweb interface will continue to be carried out.

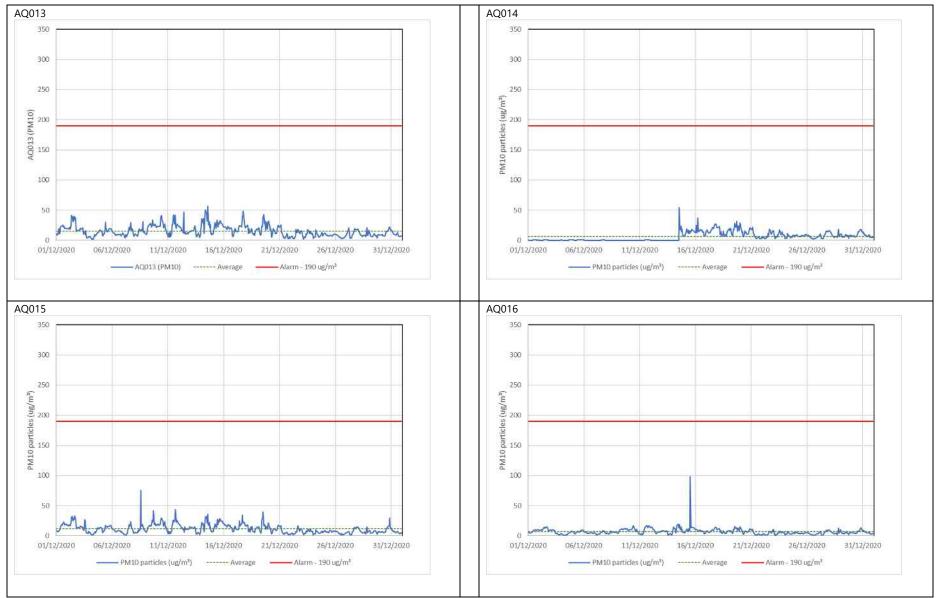
AQ020	06/12/20202 22:00-23:00: 451.8 μg/m ³ 06/12/20202 23:00-00:00: 1233.9 μg/m ³ 07/12/20202 00:00-01:00: 352 μg/m ³ 07/12/20202 01:00-02:00: 331.1 μg/m ³ 07/12/20202 02:00-03:00: 634.3 μg/m ³ 07/12/20202 03:00-04:00: 319.9 μg/m ³ 07/12/20202 04:00-05:00: 2656.9 μg/m ³ 07/12/20202 05:00-06:00: 519.4μg/m ³ 07/12/20202 06:00-07:00: 307.7 μg/m ³	Trigger alerts are not believed to be due to MDJV site activities, due to the time and distance to the site and weather conditions on the days. It is believed that these alerts are linked to the heated inlet mechanism rather than any activities. Although the heated inlet was working, it appeared not efficient enough to deal with the high levels of humidity (i.e. the thick fog) experienced on the 6th and 7th December. The monitor thus erroneously recorded high PM10 readings on those days.	The heated inlet system has been replaced to ensure this no longer occurs. Routine monitor maintenance, ensuring the monitors are functioning optimally, will continue to be carried out.
AQ045	30/12/2020 19:00-20:00 226.2 µg/m³	No site works were being undertaken (site was shut down before Christmas). Trigger alert was received in the evening, which is likely linked to moisture in the heated inlet. The other monitor at Adelaide did indicate a similar (yet smaller spike).	Continue to carry out routine monitor maintenance, ensuring the monitors are functioning optimally.

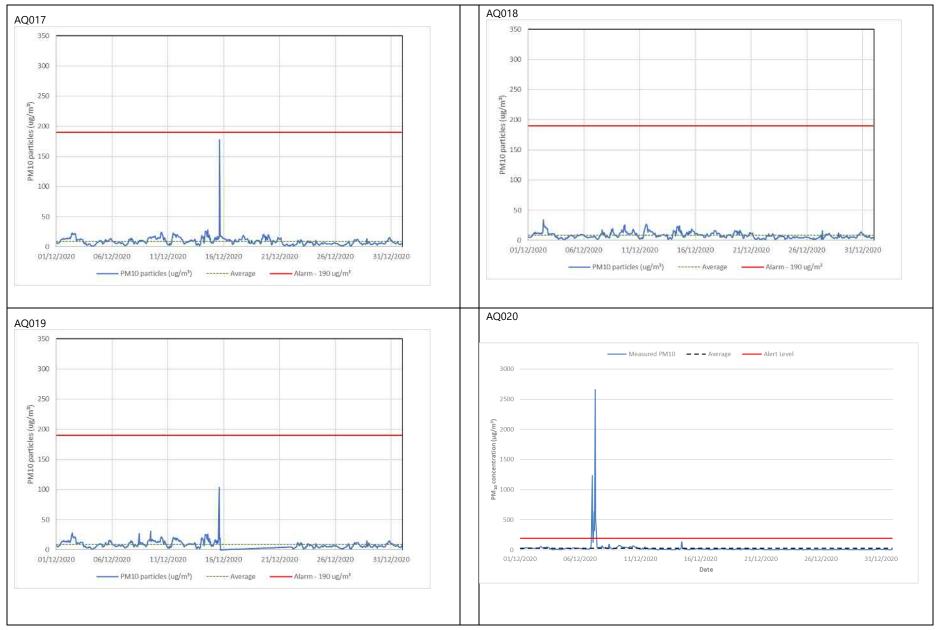
Figure 5: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors

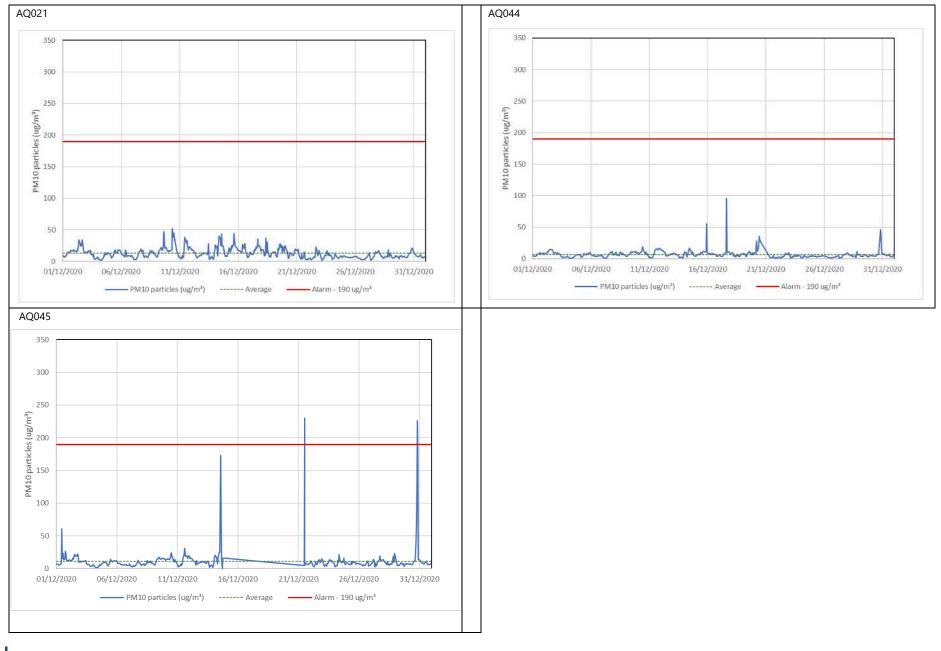












Appendix C – Air Quality Monitoring Results

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	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ²
HS2-000020BM5	Junction of St Chad's Street and Grays Inn Road	530436, 182929	56	51		No data		34	27	38	39	37	54		42
HS2-000020BM6	Brunswick Square	530321, 182268	55	57		No data		No data	No data	No data	Location Mo	oved – n	ow HS2-00	0020BQX	56
HS2-000020BM7	Chalton Street	529894, 182702	66	65		No data		No data	Tube missing	36	Tube missing	67	49		57
HS2-000020BM8	Junction of Euston Square and Grafton Place	529737, 182641	57	57		No data		40	32	42	51	51	60		49
HS2-000020BM9	Junction of Endsleigh Gardens and Upper Woburn Place	529785, 182529	56	58		No data		38	25	43	45	44	58		46
HS2-000020BMA	Junction of Euston Road and Gower Street	529429, 182375	59	54		No data		33	30	39	51	42	60		46
HS2-000020BMB	Whitfield Street	529273, 182114	45	43		No data		26	19	29	32	33	Tube missing		32
HS2-000020BMC	Hampstead Road	529232, 182511	58	53		No data		Tube missing	48	69	69	61	75		62
HS2-000020BMF	Junction of Polygon Road and Ossulston Street	529715, 183123	38	Tube missing		No data		24	14	23	28	No data	42		28
HS2-000020BMH	Nash Street	528861, 182717	44	37		No data		Tube missing	21	27	32	32	46		34
HS2-000020BMJ	Junction on Robert Street and Stanhope Street	529080, 182698	39	33		No data		26	22	30	34	32	45		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	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ²
HS2-000020BMK	Junction of Plender Street and Bayham Street	529196, 183546	56	49		No data		38	36	43	49	46	60		47
HS2-000020BML	Junction of Arlington Road and Mornington Crescent	529093, 183356	44	38		No data		23	19	28	30	33	42		32
HS2-000020BMM	Junction of Bayham Street and Pratt Street	529084, 183722	62	58		No data		40	39	Tube missing	Tube missing	52	63		52
HS2-000020BMN	Junction of Delancey Street and Albert Street	528850, 183573	45	41		No data		28	26	34	38	31	45		36
HS2-000020BMQ	Junction of Parkway and Delancey Street	528662, 183604	51	43		No data		32	25	40	46	40	55		41
HS2-000020BMR	Junction of Oval Road and Jamestown Road	528548, 183967	42	36		No data		24	21	30	32	26	44		32
HS2-000020BMS	Junction of Chalk Farm Road and Castlehaven Road	528685, 184188	52	50		No data		39	29	47	45	43	54		45
HS2-000020BMT	Junction of Camden Road and Camden Street	529079, 184043	51	43		No data		34	28	42	47	43	58		43
HS2-000020BMU	Junction of Southampton Road and Fleet Road	527783, 185407	45	No data		No data		29	24	38	42	No Data	46		37
HS2-000020BMV	Primrose Hill Road	527538, 184250	44	38		No data		22	18	27	38	30	45		33
HS2-000020BMW	Junction of Finchley Road and Hilgrove Road	526619, 184081	Tube missing	Tube missing	Т	ube missin	g	Tube missing	Tube missing	Tube missing	47	43	54		
HS2-000020BMZ	Junction of Finchley Road and Hendon Way	525102, 186042	82	61		No data		56	47	57	63	55	80		61
HS2-000020BNA	Junction of Regent's Park Road and Rothwell Street	527884, 183980	42	30		No data		No data	20	25	27	No Data	44		29
HS2-000020BNC	Junction of Outer Circle and Gloucester Gate	528528, 183443	33	25		No data		19	13	21	25	8	34		22

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar ¹	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ²
HS2-000020BNH	Junction of Parkway and Albert Street	528763, 183720	46	35		No data		29	24	29	37	34	48		32
HS2-000020BNN	Lincoln's Inn Fields	530744, 181308	41	41		No data		20	18	Tube missing	26	28	42		30
HS2-000020BNQ	Camley Street	529735, 183737	Tube missing	31		No data		27	Tube missing	Tube missing	33	61	Tube missing		29
HS2-000020BNY	Junction of Mill Lane and Hillfield Road	524839, 185136	45	41		No data		29	Tube missing	29	40	35	49		36
HS2-000020BNZ	Mansfield Road	528050, 185508	40	33		No data		25	20	25	31	32	44		29
HS2-000020BP0	Junction of Camden Road and Torriano Avenue	529708, 184871	58	51		No data		47	36	49	34	46	61		48
HS2-000020BP2	Junction of Grays Inn Road and Holborn	531149, 181616	48	45		No data		27	22	30	31	31	46		34
HS2-000020BPB	Camden High Street	528966, 183735	65	54		No data		50	15	57	69	62	68		48
HS2-000020BPC	Castlehaven Road	528788, 184591	43	36		No data		24	52	27	28	26	47		37
HS2-000020BPD	Prince of Wales Road	528571, 184683	39	27		No data		20	13	22	25	28	43		24
HS2-000020BPE	Haverstock Hill	527710, 184749	52	41		No data		33	24	34	36	37	52		37
HS2-000020BPF	Junction of Primrose Gardens and England's Lane	527549, 184640	47	33		No data		27	18	30	33	30	50		31
HS2-000020BPU	Junction of Gower Street and Grafton Way	529476, 182267	56	50		No data		31	27	36	38	36	55		40
HS2-000020BPW	Junction of Delancey Street and Arlington Road	528939, 183637	50	37		No data		31	24	35	42	36	43		36
HS2-000020BPX	Netley Street	529177, 182625	34	28		No data		29	17	28	34	30	49		27
HS2-000020BPY	Stanhope Street	529060, 182947	40	29		No data		22	15	25	27	28	43		26
HS2-000020BPZ	Albany Street	528790, 182923	44	36		No data		24	19	No data	32	31	44		31

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar ¹	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ²
HS2-000020BQ0	Werrington Street	529493, 183113	42	36		No data	•	22	16	23	27	28	45		28
HS2-000020BQ1	Polygon Road	529574, 183045	44	35		No data		23	16	25	27	32	48		29
HS2-000020BQ2	Alexandra Place	526320, 183980	39	31		No data		21	14	23	29	27	41		26
HS2-000020BQ3	Harrington Square	529228, 183172	50	38		No data		35	28	36	28	39	56		37
HS2-000020BQ4	Junction of North Gower Street and Starcross Street	529290, 182572	44	36		No data		25	20	28	45	31	48		31
HS2-000020BQ5	Adelaide Road	527713, 184392	Tube missing	40		No data		25	19	31	31	32	48		29
HS2-000020BQ6	Mornington Terrace	528836, 183474	39	30		No data		20	16	22	32	27	40		25
HS2-000020BQ7	Arlington Road	529009, 183479	40	33		No data		24	17	25	26	31	42		28
HS2-000020BQ8	Clarkson Row	529024, 183213	39	31		No data		20	16	22	29	31	47		26
HS2-000020BQ9	Park Village East	528923, 183121	37	29		No data		21	16	22	27	27	38		25
HS2-000020BQA	Eversholt Street	529386, 183132	60	48		No data		35	29	38	26	42	60		42
HS2-000020BQB	Junction of Harrington Street and Varndell Street	529147, 182816	41	30		No data		23	16	25	47	28	39		27
HS2-000020BQC	Junction of Robert Street and Hampstead Road	529199, 182704	47	37		No data		32	21	33	28	32	53		34
HS2-000020BQD	Drummond Crescent	529648, 182856	Tube missing	42		No data		27	21	29	40	37	54		30
HS2-000020BQJ	Grafton Way	529380, 182225	55	54		No data		36	33	43	38	40	56		44
HS2-000020BQL	Delancey Street	528768, 183581	44	No data		No data		33	26	36	47	38	51		35
HS2-000020BQR	Lamp post on Park Village East	528682, 183505	37	33		No data		21	19	26	31	26	39		27

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar ¹	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ²
HS2-000020BQS	Opposite Maria fidelis school on Phoenix Road	529670, 182982	40	36		No data		21	18	24	32	29	47		28
HS2-000020BQT	Drummond Street	529385, 182581	47	35		No data		25	19	28	30	33	49		31
HS2-000020BQX	Lamp post on Brunswick Square	530344, 182236	No data	No data		No data		28	22	27	32	30	49		26
HS2-000020BP4	Triplicate site on Finchley Road next to Swiss Cottage kerbside automatic monitoring station	526633, 184392	54	Tubes missing		No data		41	35	50	51	45	45		45
HS2-000020BP5	Triplicate site next to the Euston Road roadside automatic monitoring stations	529895, 182657	69	67		No data		54	35	49	56	48	59		55
HS2-000020BP9	Triplicate site in Russell Square next to Bloomsbury urban background automatic monitoring station	530120, 182034	44	43		No data		23	19	25	29	29	41		31