March 2021



Air Quality and Dust Monitoring Monthly Report - March 2021

London Borough of Camden

© HS2 Ltd. gov.uk/hs2



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-governmentlicence/ version/2 **OGL** 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 Camden (LBC) during January and March 2021 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 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 pre-demolition surveys, pile cap breakout, installation of containers for demolition screen;
- Site Office and Welfare at 110-122 Hampstead Road;
- Archaeological dig at St James' Gardens, groundworks and materials management.
 Continued scaffolding works for worksite enclosure;
- Euston Street Walkden and Wolfson House demolition and groundworks; and
- Utilities ground excavation works on Harrington Street, Stephenson Way, Drummond Street and North Gower Street.

Skanska Costain Strabag Joint Venture (SCSjv)

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

Mace Dragados Joint Venture (MDjv)

ITR:

- Handover of ITR site from Eviction Team to MDJV completed. Installation of protection to gas main and exclusion area;
- Completion of trial holes across ITR to locate Gas, Water and Electric mains;
- CBR tests by Socotec conducted site wide after removing topsoil and vegetation layer;
- Removal of tree stumps, collection of usable trunks for stakeholder, chipping and removal of waste wood;
- Setting up of site compound;
- Trial holes to inspect Euston tap foundations;
- Shafts and tunnels backfilled with 6F5 fill material and compact;
- Delivery of 3T dumper, 120 ride on roller and Ramax. Safelane on site as UXO watching brief;
- Ground reduction along southern hoarding alignment and installing Cellweb foundation/root protection system;
- Installation off gates on ITR for access to TFL supply boxes; and
- Concrete Slab on the Entry Gate on the ITR.

TSS:

- Site set up, deliveries and trial of swept path for CemSkan cage deliveries with trombone trailer;
- TSS Acoustic Shed set up (delivery of telehandler, 8T excavator, 2x fans, VCB's and electric ancillaries on Calumet shed); and
- Acoustic Shed Trial.

NTH – EN and area around Maria Fidelis:

- Installation of Hoarding Maria Fidelis playground and removing the temporary fence as it progresses;
- Removal all the cables from the old Hoarding Maria Fidelis Playground;
- Structural Soil compound set up;
- Relocating containers from Geocisa and connecting power to the NTH area;
- Emergency Tree cut Maria Fidelis leaning on adjacent structure;
- Site maintenance; and
- Removing Furniture from Humanitarian Block.

Tower Demolition:

- Trial holes to establish pile positions etc on Demolition site; and
- Soft strip basement rooms Demolition 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 low to high dust risk rating.

- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 2, 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 μ g/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 (March 2021).

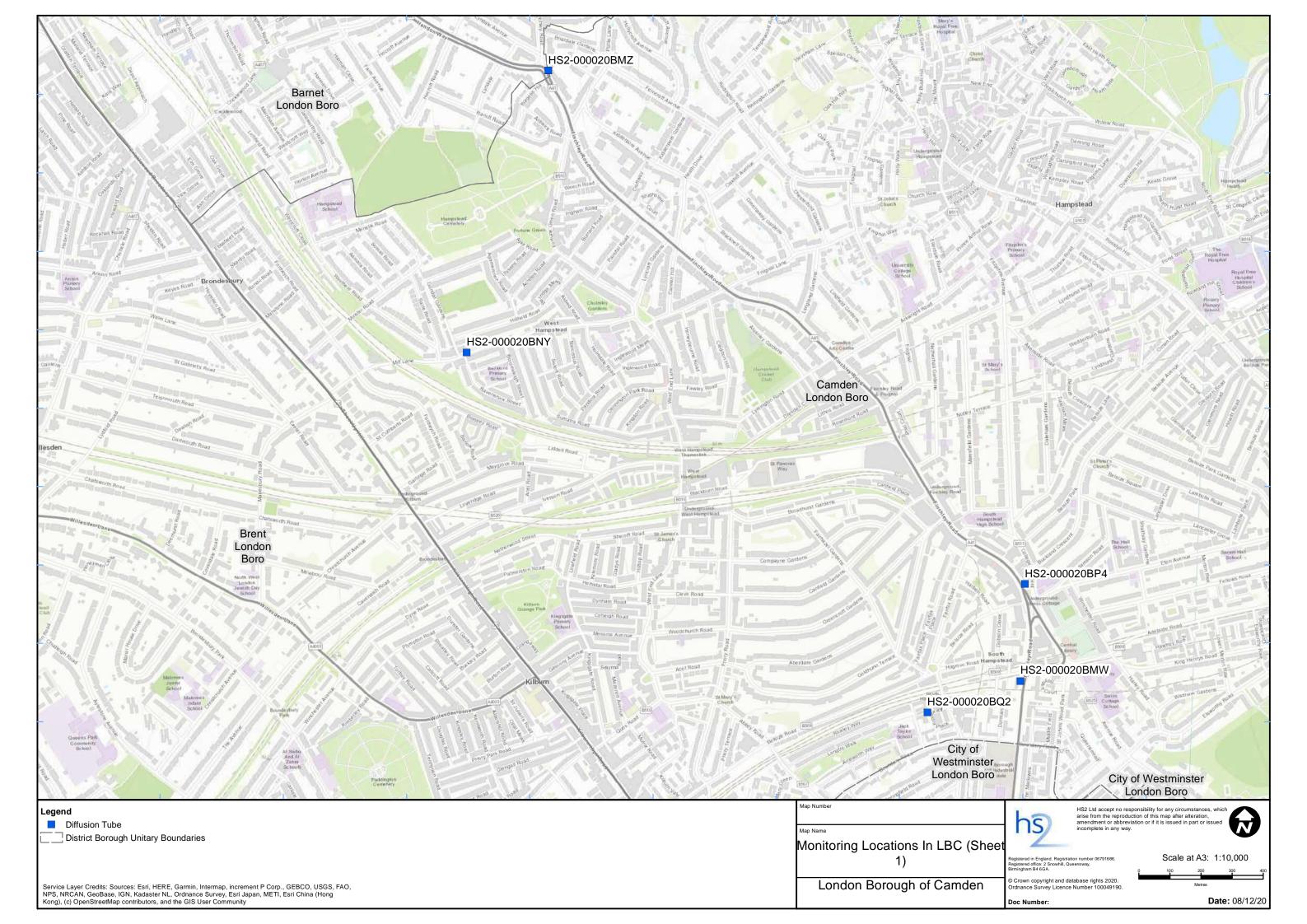
 Triggers are presented in Appendix B, Table 3. All other results were in line with the expected ranges.
- 1.1.9 Data capture for monitors AQ002, AQ003, AQ005 and AQ017 were below 90% for the month of March 2021 due to a faults with the monitors. All faulty monitors were replaced during this reporting period.
- 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 4, together with the 2021 running mean.
- 1.1.13 Table 1 provides a summary of the complaint information related to dust or air quality received during the reporting period (March 2021), together with the findings of any related investigations.

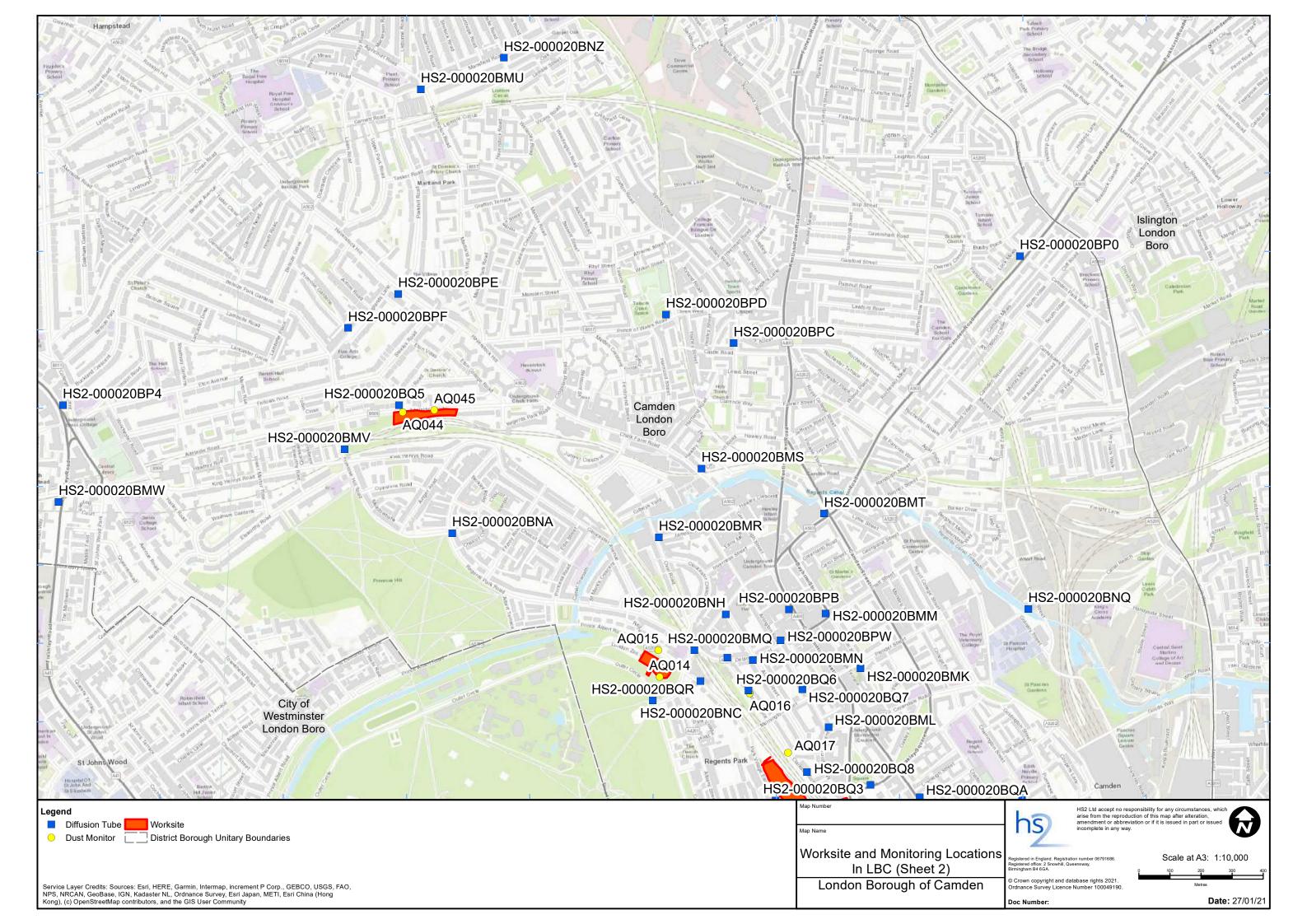
Table 1: Summary of complaints received during March 2021

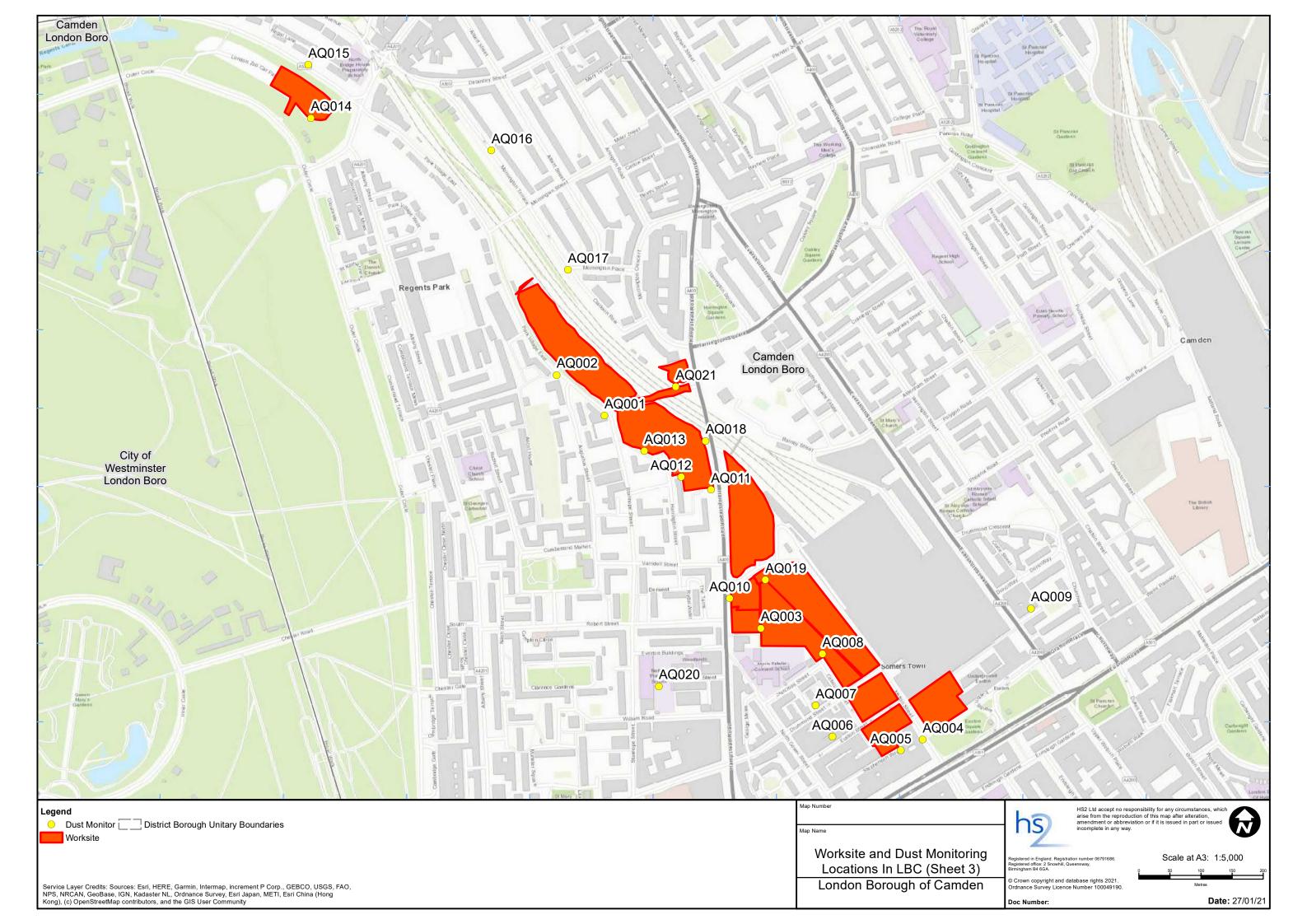
Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-21-41599-C	N/A	General levels of dust.	A response has been provided highlighting the mitigation measures that are being used and encouraged stakeholder to report it when they believe these are not working. Furthermore, advised that monitors are in place to monitor the dust and pollution levels, and ensure effective mitigation is in place.

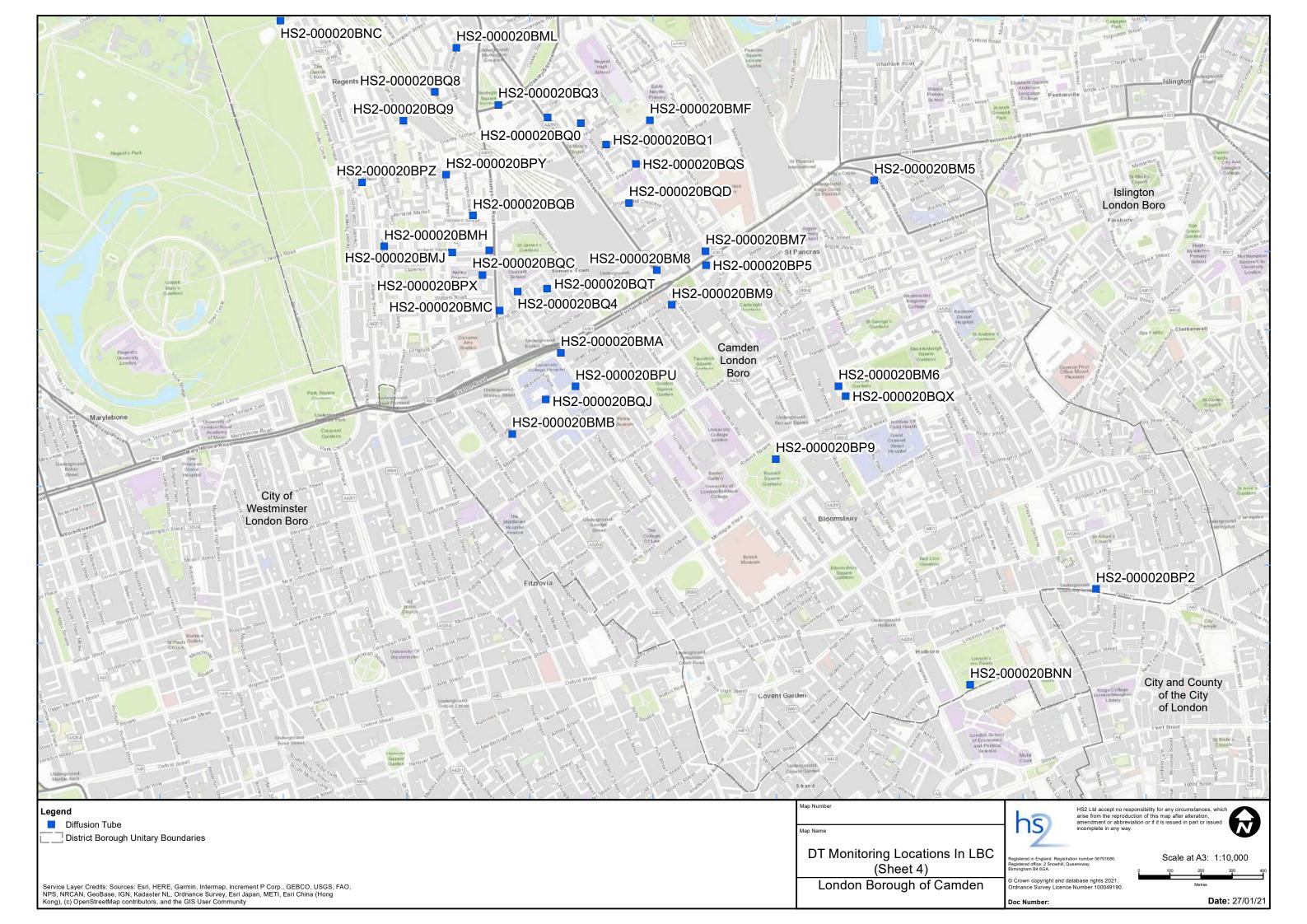
Appendix A – Worksites and Monitoring Locations

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









Appendix B – Dust Monitoring Results

Table 2: Dust monitoring locations and March 2021 Results

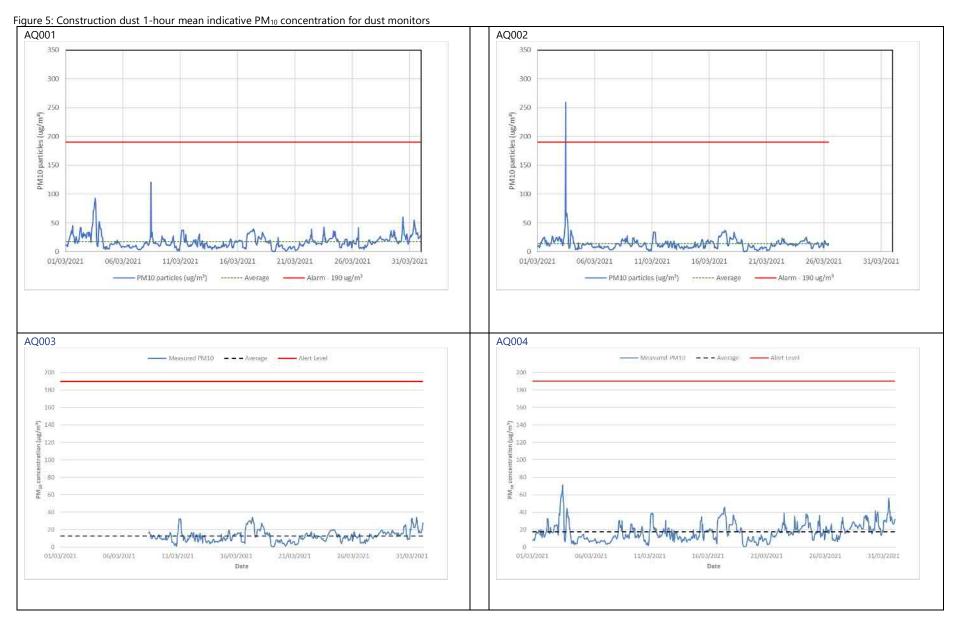
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (μg/m³)	Minimum 1- hour PM ₁₀ concentration (μg/m³)	Maximum 1- hour PM ₁₀ concentration (μg/m³)	Number of 1- hour periods exceeding trigger level of 190 µg/m³	Data capture (%)
AQ001	529022, 183040	Junction of Park Village East, Stanhope Street and Granby Terrace	М	Yes	N	17.8	0.5	120.6	0	100.0
AQ002	528945, 183105	Park Village East	М	Yes	N	14.1	0.4	259.0	1	82.2
AQ003	529273, 182698	St James' Gardens	М	Yes	N/A	12.7	0.6	34.3	0	75.6
AQ004	529533, 182519	Melton Street	Н	Yes	N/A	17.6	0.7	71.4	0	100.0
AQ005	529498, 182502	Stephenson Way	Н	Yes	N/A	18.9	1.1	123.8	0	75.6
AQ006	529388, 182524	Euston Street	Н	Yes	N/A	13.7	0.5	76.8	0	100.0
AQ007	529361, 182574	Drummond Street	Н	Yes	N/A	11.6	0.4	52.6	0	100.0
AQ008	529372, 182657	Cobourg Street	Н	Yes	N/A	15.6	0.6	115.7	0	100.0
AQ009	529707, 182730	Eversholt Street	Н	Yes	N/A	19.6	0.6	110.0	0	100.0
AQ010	529223, 182746	Hampstead Road South	М	Yes	N/A	31.9	1.3	159.3	0	100.0
AQ011	529193, 182921	Hampstead Road	М	No	N	15.2	0.8	98.5	0	95.1

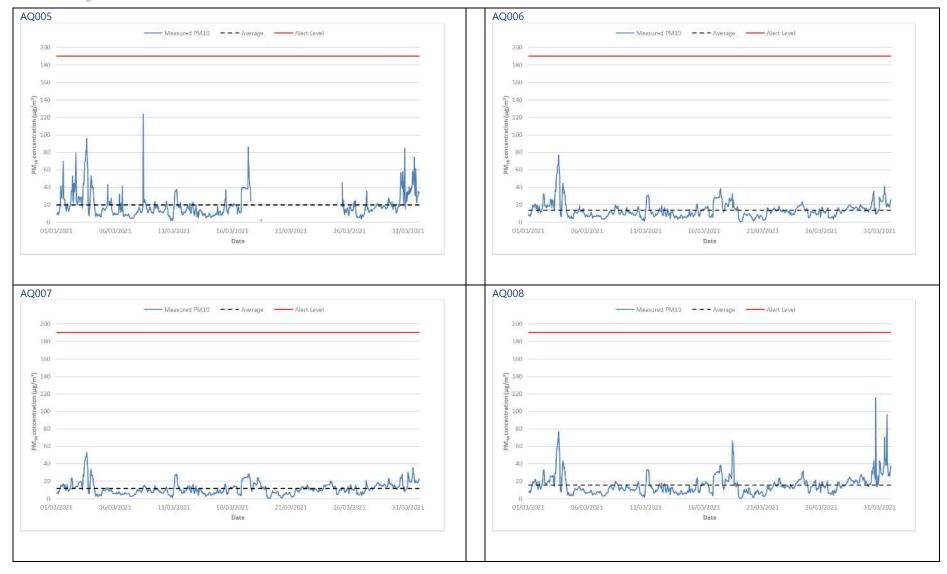
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	previous Mean 1-hour PM ₁₀ hou concentration concentrat		Minimum 1- hour PM ₁₀ concentration (µg/m³)	Maximum 1- hour PM ₁₀ concentration (µg/m³)	Number of 1- hour periods exceeding trigger level of 190 µg/m³	Data capture (%)
AQ012	529145, 182941	Rear of Coniston House	М	Yes	N	14.0	0.5	94.2	0	100.0
AQ013	529086, 182983	Regents Park Estate	М	Yes	N	30.3	0.8	882.0	3	96.9
AQ014	528550, 183518	Vehicle Holding Area	L	Yes	N	11.8	0.3	126.9	0	100.0
AQ015	528546, 183604	Prince Albert Road	L	Yes	N	12.8	0.3	210.1	1	100.0
AQ016	528840, 183466	Mornington Terrace North	М	Yes	N	12.5	0.5	49.2	0	100.0
AQ017	528963, 183274	Mornington Terrace South	М	Yes	N	13.9	0.5	79.7	0	88.3
AQ018	529184, 182999	Hampstead Road North	М	Yes	N	12.8	0.4	60.0	0	100.0
AQ019	529280, 182776	Park Village East (North)	М	Yes	N	13.1	0.4	69.1	0	100.0
AQ020	529109, 182605	Netley School	n/a	Yes	N/A	12.4	0.5	71.1	0	100.0
AQ021	529136, 183086	Site compound at the Junction of Hampstead Road & Granby Terrace Bridge	М	Yes	N	16.0	0.5	93.9	0	99.9
AQ044	527725, 184369	Adelaide Road Vent Shaft (west)	М	Yes	N	20.1	0.4	823.5	11	99.7
AQ045	527826, 184375	Adelaide Road Vent Shaft (east)	М	Yes	N	36.6	0.6	3953.2	16	100.0

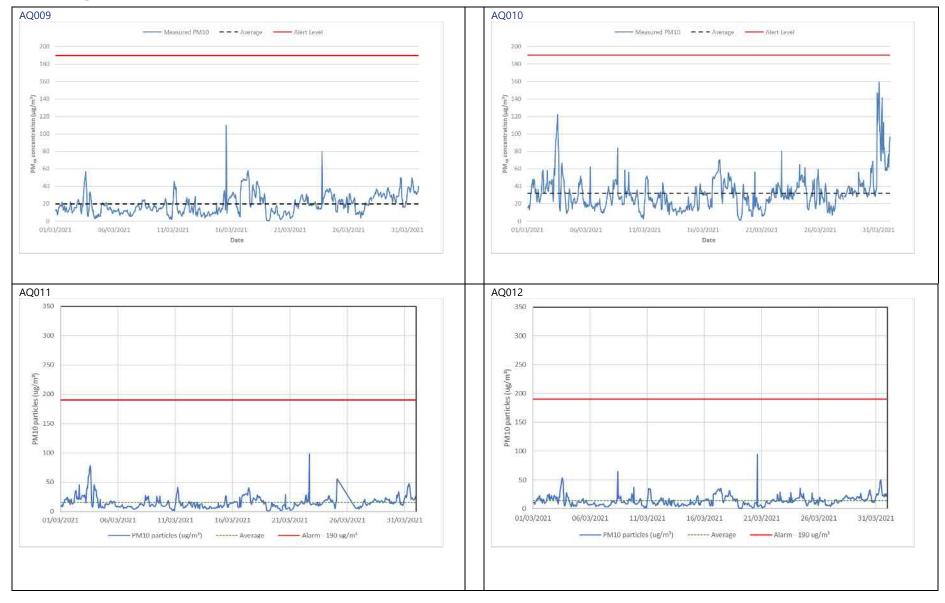
Table 3: Summary of exceedances of trigger level in March 2021

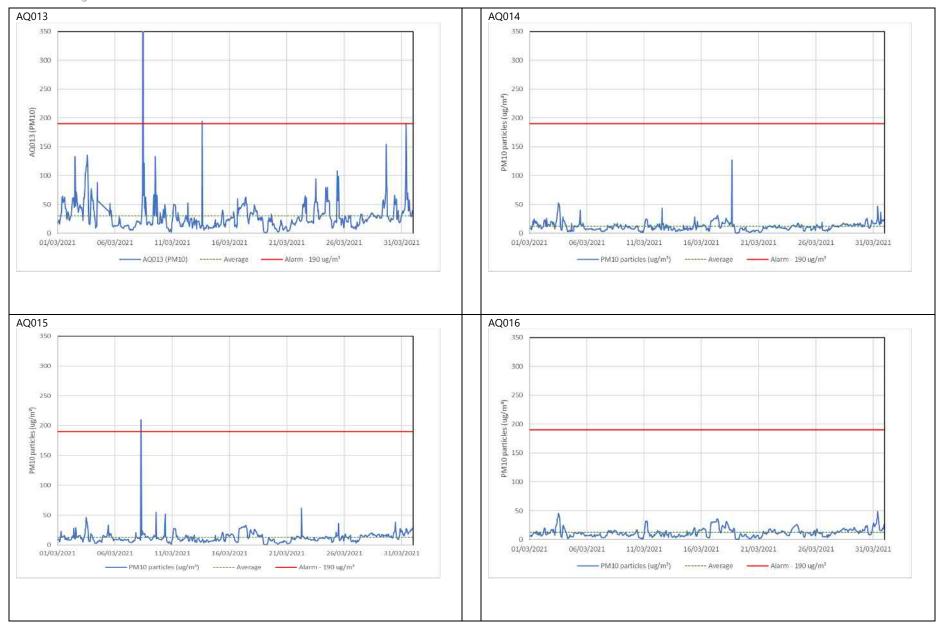
Monitoring site	Period exceeding trigger alert and concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ002	03/03/2021 10:00-11:00: 259.0 μg/m³	The site team immediately investigated the matter but could find no reason for the trigger. There were no works on Park Village East and site operations within the cutting below were not giving rise to any dust. Haul routes and materials were damp, and the weather was misty. There had been no difference in site operations from what had happened over the past few weeks, ground works and piling. Levels on AQ002 before and after the trigger were within normal ranges and AQ001, outside Cubitt Court on Park Village East, further along the road, showed no elevated levels. It is considered the trigger may have been caused by loose debris in the monitor's inlet.	All the dust monitors in Euston were serviced over the following two days
AQ013	08/03/2021 10:00-11:00: 882.0 μg/m³	At the time of the trigger alert from the dust monitor, which is located on the south western boundary of the Euston Throat Retained Cut (ETRC) site, spray painting was being carried out on the metal hooks installed on the legato blocks which line the hoarding. Albeit this is not a dusty operation it was the only activity in the area that was occurring. It was assumed the solvent based paint may have been a cause of the trigger given its use in such proximity to the monitor. There were no other potentially dusty operations, including site ground conditions, in the vicinity of the monitor that could have caused the trigger. The subsequent reading dropped to expected levels following the completion of the spray painting and nearby monitors, AQ012 and AQ011, showed no elevated levels during the same period.	The site team will continue to ensure dust suppression is available and deployed where required on site.
AQ013	13/03/2021 14:00-15:00: 194.4 μg/m³	At the time of the trigger (Saturday afternoon) the site was shut and no activities were underway. Dust suppression had been deployed across the site in general when operational in the morning and no visible dust was observed. It was not possible to determine the source the trigger.	The site team will continue to ensure dust suppression is available and deployed where required on site.
AQ013	31/03/2021 09:00-10:00: 190.7 μg/m³	At the time of the trigger a range of activities were being carried out in the general locality of the dust monitor. Groundworks for future welfare, pile cage installation, concreting works and general movement of large machinery. Dust suppression was deployed across these activities and the site in general and no visible dust was observed. It is considered the elevated level was localised to that area of the site.	The site team will continue to ensure dust suppression is available and deployed where required on site.

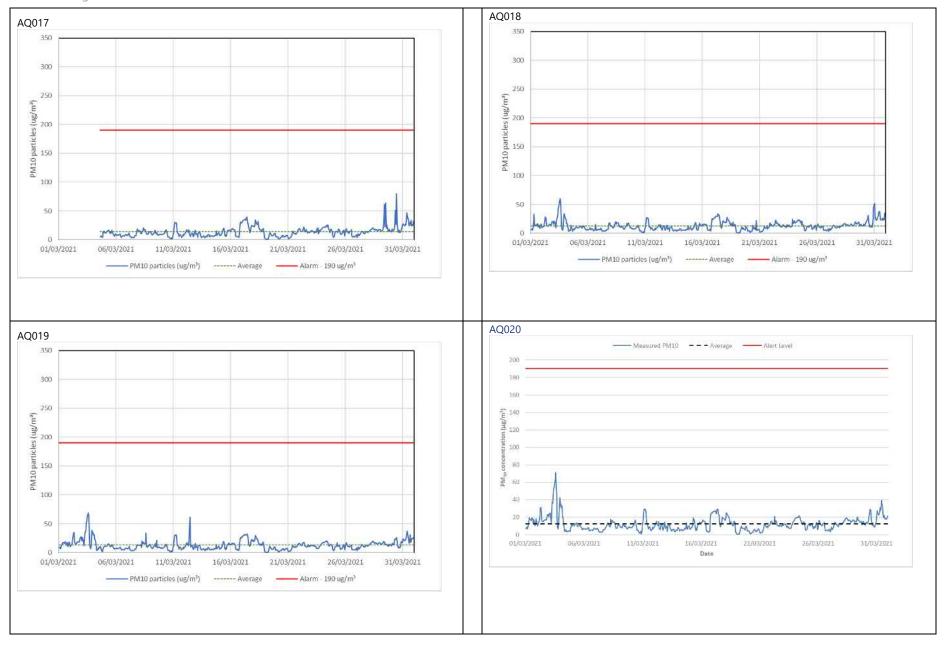
Monitoring site	Period exceeding trigger alert and concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
		The subsequent readings dropped and remained low for the rest of the day. Nearby monitors, AQ001, AQ012 and AQ011, showed no elevated levels during the same period.	
AQ015	08/03/2021 06:00-07:00: 210.1 μg/m ³	At the time of the trigger in the alert hours of the morning the vehicle holding site was shut. This monitor is overdue its regular maintenance and filter change due to traffic management measures currently in the immediate vicinity preventing the necessary service to be carried out. It is considered the trigger was due to either early morning moisture or loose debris within the monitor's inlet, giving a 'false' reading.	The monitor will be serviced as soon as the removal of traffic management measures permit.
AQ044	02/03/2021 06:00 – 03/03/2021 16:00: 244.2 – 823.5 μg/m³ (11 x triggers)	It is considered the triggers were due to power loss to the monitors. The early morning triggers caused when the hybrid battery working overnight swapped back to the daytime generator. The loss of power to the monitor	
AQ045	02/03/2021 06:00 – 03/03/2021 16:00: 266.7 μg/m³ – 3953.2 μg/m³ (12 x triggers) 04/03/2021 05:00 – 07:00: 257.0 – 249.3 μg/m³ (2 x triggers) 15/03/2021 16:00 – 17:00: 238.1 μg/m³	would mean the internal heater and pump would not have been working properly. Moisture in the inlet would then have caused a 'false' trigger. The hourly triggers on the 03/03/2021 and 15/03/2021 were due to the generator being serviced, i.e. switched off. Again, the pump and heater would not have been working properly during these times causing 'false' triggers.	n/a
AQ045	18/03/2021 11:00 – 12:00: 270.1 µg/m³	At the time of the trigger alert from dust monitor (AQ045), which is located on the eastern boundary of the Adelaide Road Vent Shaft site, cutting concrete with a floor saw was being undertaken directly adjacent to the monitor, located just behind an acoustic barrier. Water and dust suppression were being used during the operation which visually appeared to be working.	On receipt of the trigger, works were stopped, and more water was applied to the area and further dust suppression was applied before works recommenced and for the remaining length of cut. Dust suppression was observed to be successful albeit subsequent monitored readings remained elevated (probably because of the proximity of the works to the monitor, 1-2 m) before reducing on completion of the works. The site team will take a similarly precautionary approach for future works and ensure dust suppression is readily available and deployed as required.

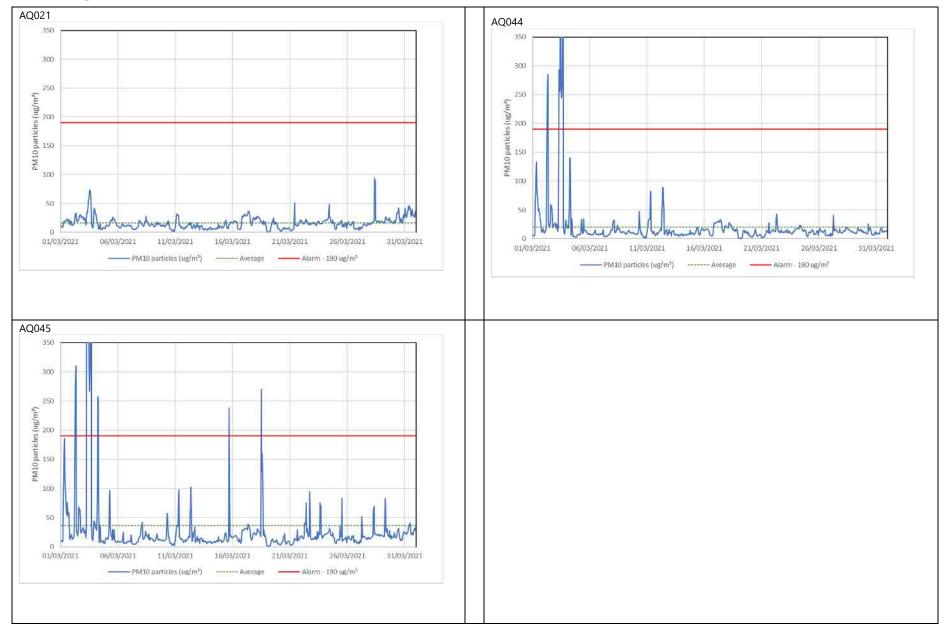












Appendix C – Air Quality Monitoring Results

Table 4: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2021 (µg/m³)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BM5	Junction of St Chad's Street and Grays Inn Road	530436, 182929	50	41											46
HS2-000020BM7	Chalton Street	529894, 182702	53	57											55
HS2-000020BM8	Junction of Euston Square and Grafton Place	529737, 182641	58	60											59
HS2-000020BM9	Junction of Endsleigh Gardens and Upper Woburn Place	529785, 182529	52	48											50
HS2-000020BMA	Junction of Euston Road and Gower Street	529429, 182375	53	47											50
HS2-000020BMB	Whitfield Street	529273, 182114	44	45											44
HS2-000020BMC	Hampstead Road	529232, 182511	68	73											71
HS2-000020BMF	Junction of Polygon Road and Ossulston Street	529715, 183123	38	37											38
HS2-000020BMH	Nash Street	528861, 182717	39	38											38
HS2-000020BMJ	Junction on Robert Street and Stanhope Street	529080, 182698	37	39											38
HS2-000020BMK	Junction of Plender Street and Bayham Street	529196, 183546	50	51											51

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
HS2-000020BML	Junction of Arlington Road and Mornington Crescent	529093, 183356	42	38											40
HS2-000020BMM	Junction of Bayham Street and Pratt Street	529084, 183722	57	50											53
HS2-000020BMN	Junction of Delancey Street and Albert Street	528850, 183573	Tube Missing	38											38
HS2-000020BMQ	Junction of Parkway and Delancey Street	528662, 183604	46	47											46
HS2-000020BMR	Junction of Oval Road and Jamestown Road	528548, 183967	39	33											36
HS2-000020BMS	Junction of Chalk Farm Road and Castlehaven Road	528685, 184188	50	43											46
HS2-000020BMT	Junction of Camden Road and Camden Street	529079, 184043	50	49											49
HS2-000020BMU	Junction of Southampton Road and Fleet Road	527783, 185407	40	38											39
HS2-000020BMV	Primrose Hill Road	527538, 184250	41	37											39
HS2-000020BMW	Junction of Finchley Road and Hilgrove Road	526619, 184081	50	51											51
HS2-000020BMZ	Junction of Finchley Road and Hendon Way	525102, 186042	Tube Missing	Tube Missing											-
HS2-000020BNA	Junction of Regent's Park Road and Rothwell Street	527884, 183980	40	33											37
HS2-000020BNC	Junction of Outer Circle and Gloucester Gate	528528, 183443	32	32											32
HS2-000020BNH	Junction of Parkway and Albert Street	528763, 183720	42	36											39

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BNN	Lincoln's Inn Fields	530744, 181308	38	33											36
HS2-000020BNQ	Camley Street	529735, 183737	Tube Missing	50											50
HS2-000020BNY	Junction of Mill Lane and Hillfield Road	524839, 185136	48	43											45
HS2-000020BNZ	Mansfield Road	528050, 185508	38	37											38
HS2-000020BP0	Junction of Camden Road and Torriano Avenue	529708, 184871	52	56											54
HS2-000020BP2	Junction of Grays Inn Road and Holborn	531149, 181616	39	32											35
HS2-000020BPB	Camden High Street	528966, 183735	69	Tube Missing											69
HS2-000020BPC	Castlehaven Road	528788, 184591	43	37											40
HS2-000020BPD	Prince of Wales Road	528571, 184683	39	33											36
HS2-000020BPE	Haverstock Hill	527710, 184749	44	38											41
HS2-000020BPF	Junction of Primrose Gardens and England's Lane	527549, 184640	43	40											42
HS2-000020BPU	Junction of Gower Street and Grafton Way	529476, 182267	Tube Missing	43											43
HS2-000020BPW	Junction of Delancey Street and Arlington Road	528939, 183637	39	40											39
HS2-000020BPX	Netley Street	529177, 182625	44	40											42
HS2-000020BPY	Stanhope Street	529060, 182947	38	32											35
HS2-000020BPZ	Albany Street	528790, 182923	39	35											37

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BQ0	Werrington Street	529493, 183113	38	34											36
HS2-000020BQ1	Polygon Road	529574, 183045	Tube Missing	Tube Missing											-
HS2-000020BQ2	Alexandra Place	526320, 183980	37	35											36
HS2-000020BQ3	Harrington Square	529228, 183172	53	51											52
HS2-000020BQ4	Junction of North Gower Street and Starcross Street	529290, 182572	45	41											43
HS2-000020BQ5	Adelaide Road	527713, 184392	44	40											42
HS2-000020BQ6	Mornington Terrace	528836, 183474	38	33											35
HS2-000020BQ7	Arlington Road	529009, 183479	35	35											35
HS2-000020BQ8	Clarkson Row	529024, 183213	37	39											38
HS2-000020BQ9	Park Village East	528923, 183121	37	37											37
HS2-000020BQA	Eversholt Street	529386, 183132	55	47											51
HS2-000020BQB	Junction of Harrington Street and Varndell Street	529147, 182816	32	40											36
HS2-000020BQC	Junction of Robert Street and Hampstead Road	529199, 182704	47	49											48
HS2-000020BQD	Drummond Crescent	529648, 182856	47	47											47
HS2-000020BQJ	Grafton Way	529380, 182225	47	46											46
HS2-000020BQL	Delancey Street	528768, 183581	46	46											46

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BQR	Lamp post on Park Village East	528682, 183505	37	35											36
HS2-000020BQS	Opposite Maria fidelis school on Phoenix Road	529670, 182982	42	42											42
HS2-000020BQT	Drummond Street	529385, 182581	40	44											42
HS2-000020BQX	Lamp post on Brunswick Square	530344, 182236	45	40											42
HS2-000020BP4	Triplicate site on Finchley Road next to Swiss Cottage kerbside automatic monitoring station	526633, 184392	Tubes Missing	52											52
HS2-000020BP5	Triplicate site next to the Euston Road roadside automatic monitoring stations	529895, 182657	55	62											58
HS2-000020BP9	Triplicate site in Russell Square next to Bloomsbury urban background automatic monitoring station	530120, 182034	38	36											37