August 2022



# Air Quality and Dust Monitoring Monthly Report - August 2022

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 July 2022 and August 2022 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 <a href="www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2">www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2</a>, 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 December 2017 and is expected to be completed by 2025. The current and planned worksites, as presented in Appendix A, Figure 1 to Figure 5, include:

#### Skanska Costain Strabag Joint Venture (SCSjv)

#### Adelaide Road Vent Shaft

- Piling operations; and
- Groundworks.

#### **Euston Scissor Cut**

- Groundworks;
- Piling operations; and
- Materials management.

#### **Euston Throat Retained Cut**

- · Groundworks;
- Piling operations; and
- Materials management.

#### Hampstead Road Bridge

• Utilities diversion works.

#### **Euston Cavern**

Piling operations.

#### **Mace Dragados Joint Venture (MDjv)**

#### **TSS**

- All walers & temp. props at level B3 removed
- 1st lift Liner walls installation has started
- Tunnel eye waterproofing completed
- Construction shaft Poured portals
- 4/986 casted cover slab
- VPT / FVA / Curved tunnel and divide wall Continue with reinforcement & concrete
- JGL start demobilisation

#### NTH

- Installed polymer slab & constructed batching plant for test piling
- Installed piling mat & started test piling

#### Zone 5

- JFH Completed piling mat installation & removing obstruction on the scope
- Imtech Started drilling bore hole for ground source heat pump trial

#### **Two Towers**

- Set up scaffold safety fan to East elevation & netting to hoarding
- Set up scaffold safety fan to north for public protection
- Re-started demolition works to north ground floor slab
- Set up TW back props in basement area under piazza
- Drill rebar for west slab extension & concrete
- Demolition of vertical elements of basement
- Realigned site entrance for new security access procedure

#### ITR

- Continued with deep drainage SWMH03
- TW trench box reinstall for pipe & rocker connection to deep chamber
- Ducting & chamber installs
- Pile mat installation
- Muck away & site deliveries
- Realigned site entrance for new security access procedure

#### <u>London Underground / Surveys</u>

- Condition & MEP surveys carried out on the London underground at Euston Square and London Euston station
- Thames Water Sewer Condition Survey (Additional Scope)
- Condition & MEP surveys carried out in IQ Bloomsbury Building (UKPN substation)) and East/West Lodges
- Noise Insulation works at Drummond Street

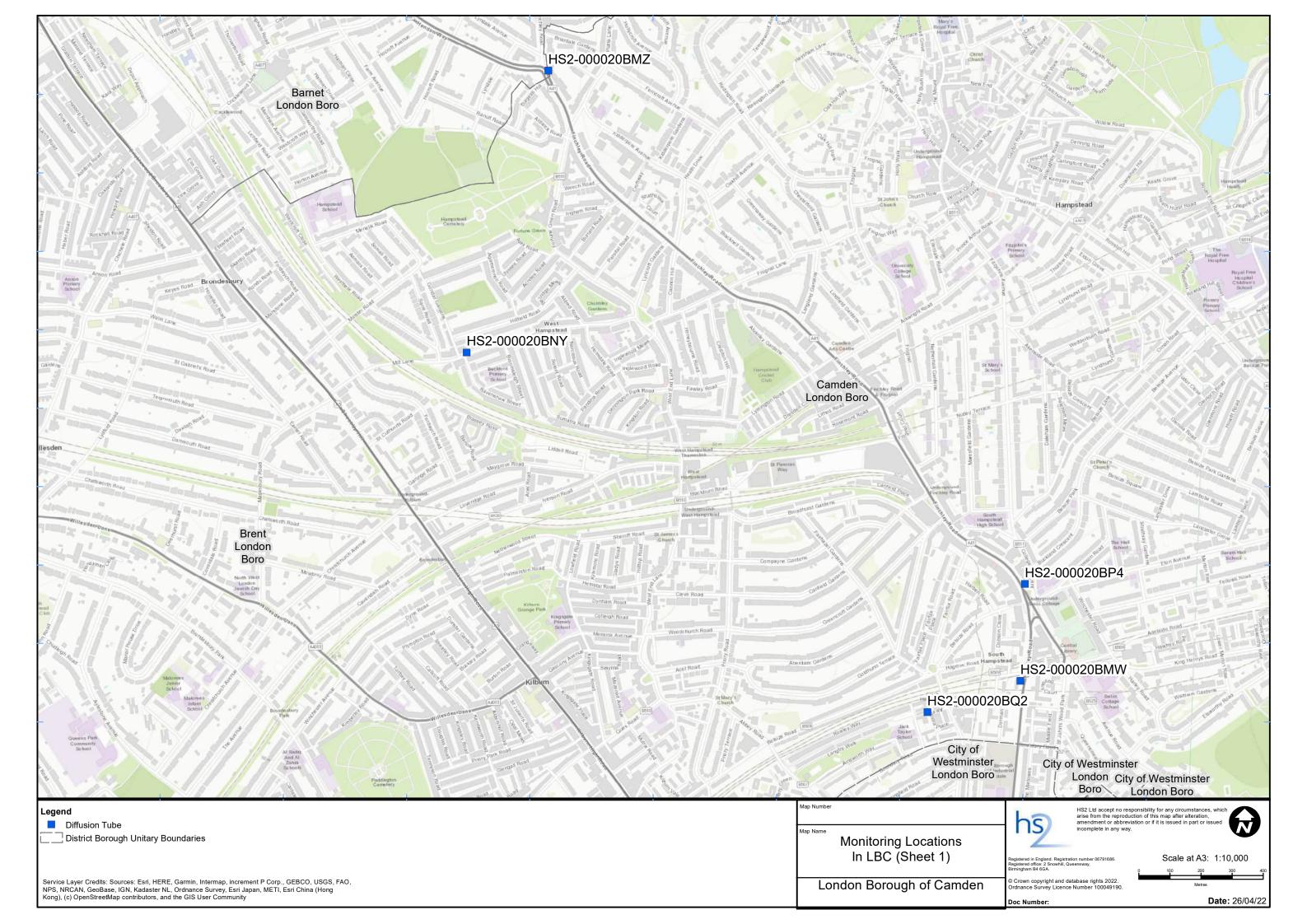
- 1.1.5 Twenty-one (21) dust monitors are installed around worksites, where works are underway. These sites returned a medium to high dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 2, together with line charts of monthly data from each dust monitor in Figure 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.
- 1.1.7 The trigger level for  $PM_{10}$  concentrations of 190  $\mu$ g/m<sup>3</sup>, 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 recorded during the monitoring period (August 2022) are reported in Appendix B, Table 3.
- 1.1.9 Data capture was below 90% for multiple monitors in August 2022 due to power supply issues and communications issues, all of which have since been resolved.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO<sub>2</sub>) is undertaken at sixty-four (64) locations around highways within the LBC as part of the management of air quality where significant effects August 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 the results to date, no unexpected values were recorded during the monitoring period.
- 1.1.12 NO<sub>2</sub> monitoring locations and results are presented in Appendix C, Table 4, together with the 2022 running mean.
- 1.1.13 Table 1 provides a summary of the complaint information relating to dust or air quality received during the reporting period, together with the findings of any related investigations.

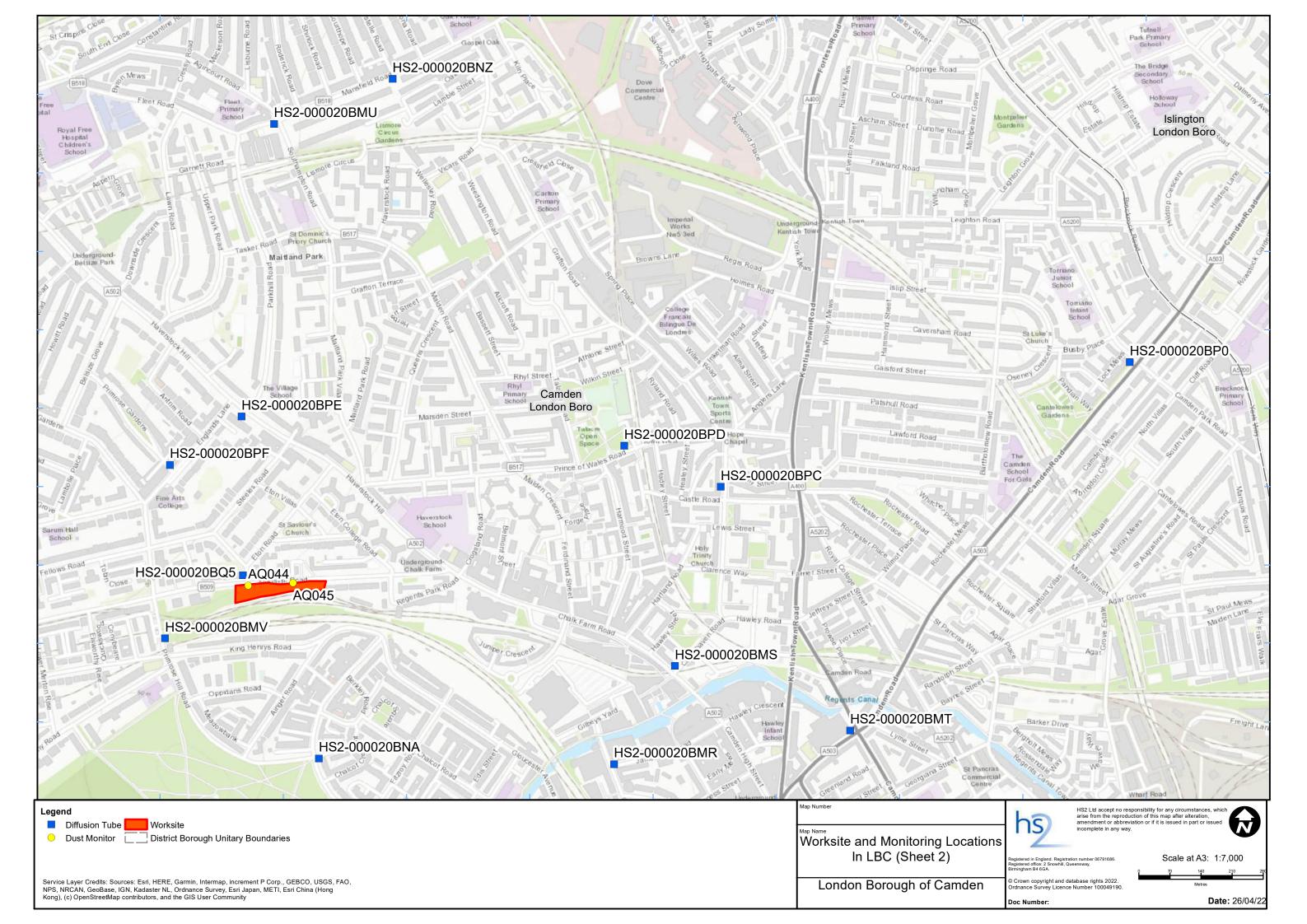
Table 1: Summary of complaints received during August 2022

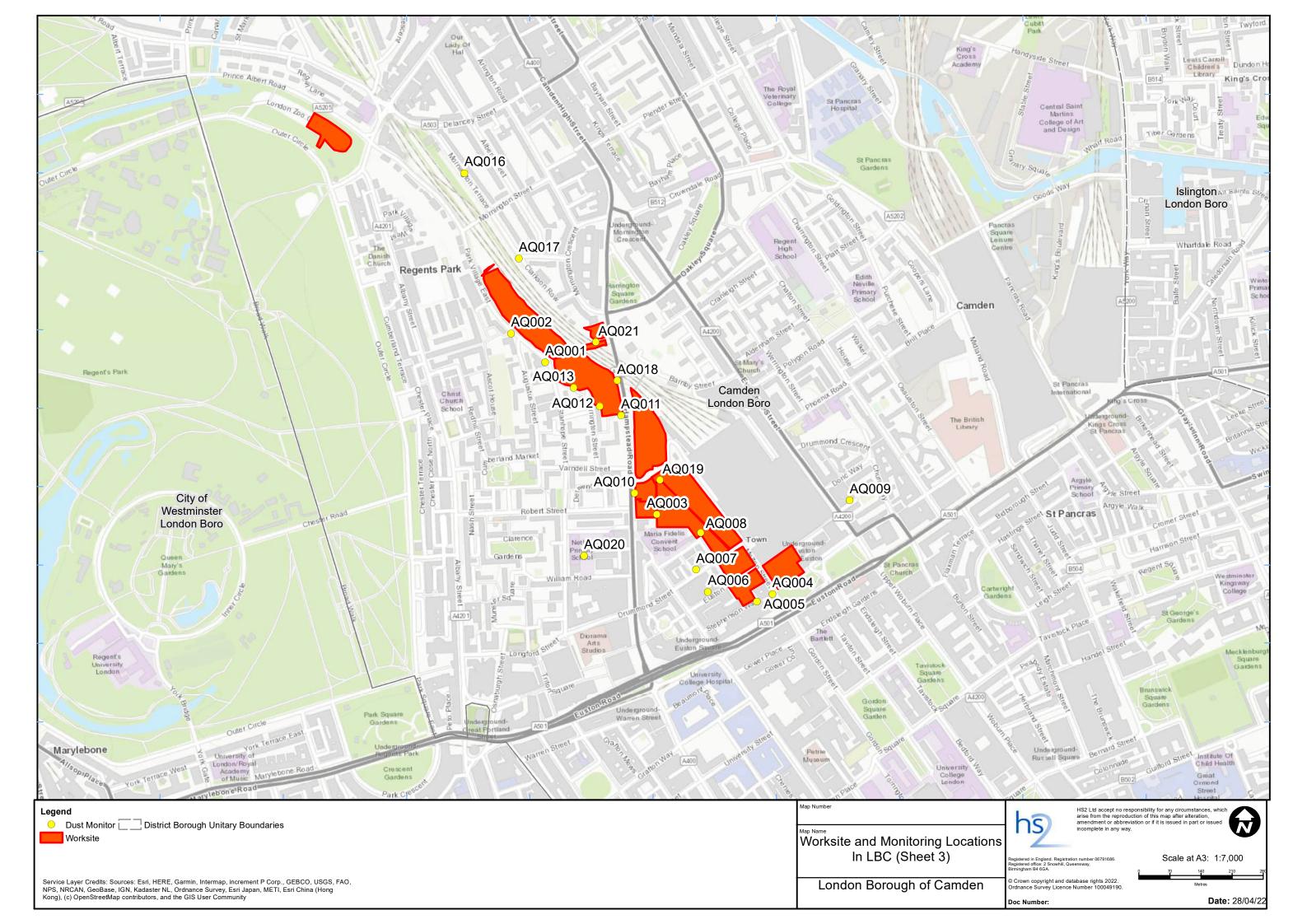
Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-22-43885-C	n/a	Stakeholder impacted by dust on leaving the house. Water sprays not in use.	Site have been and continue to use a water spray to supress dust and continue to monitor.
HS2-22-43928-C	n/a	Stakeholder impacted by noise & dust from works. Disruption from Auger piling, water pour activities & site cleaning vehicles.	Mitigation measures and monitoring is in place. There was one exceedance of dust levels and this was corrected on the day. Mitigation and monitoring continues.

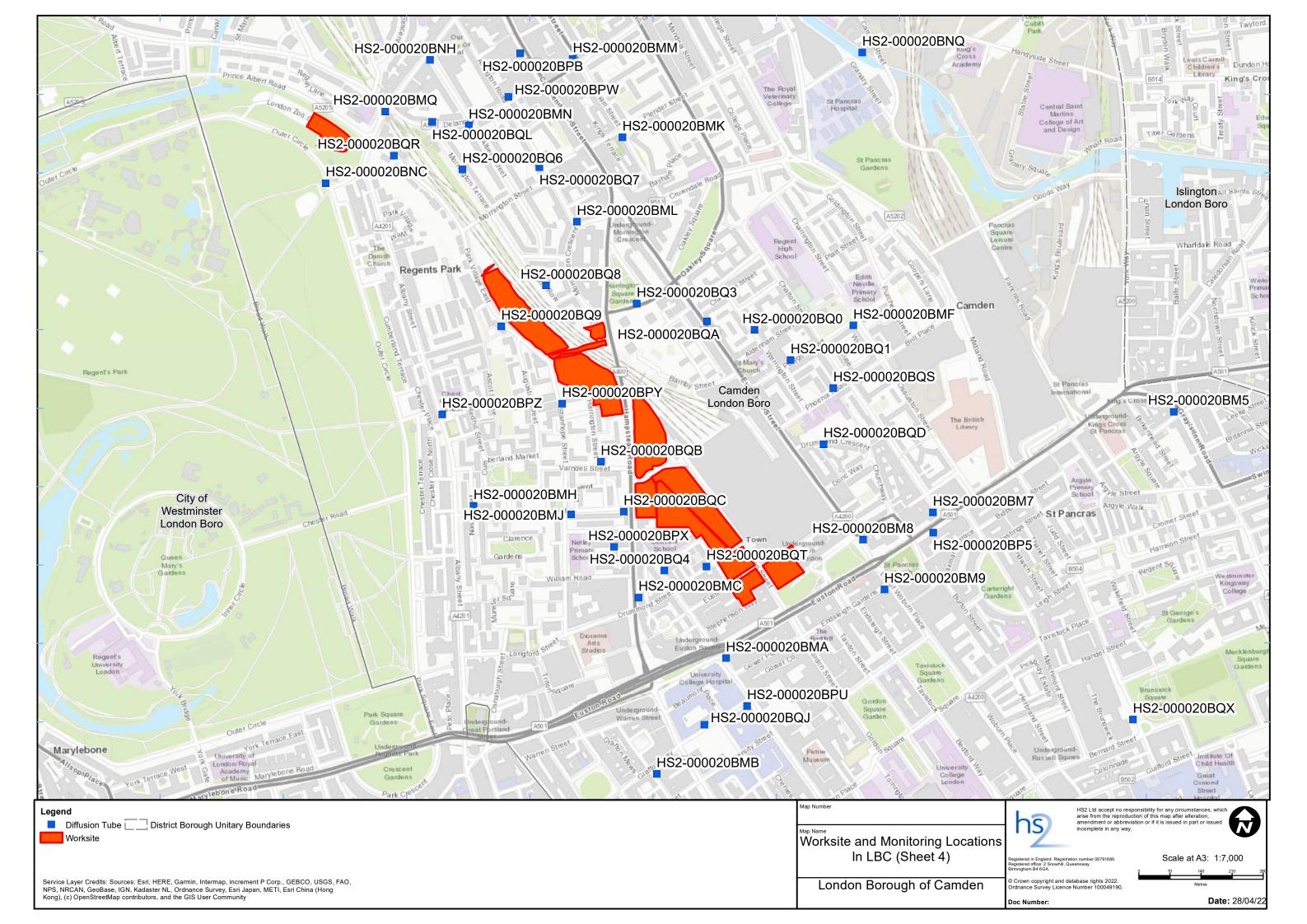
## **Appendix A – Worksites and Monitoring Locations**

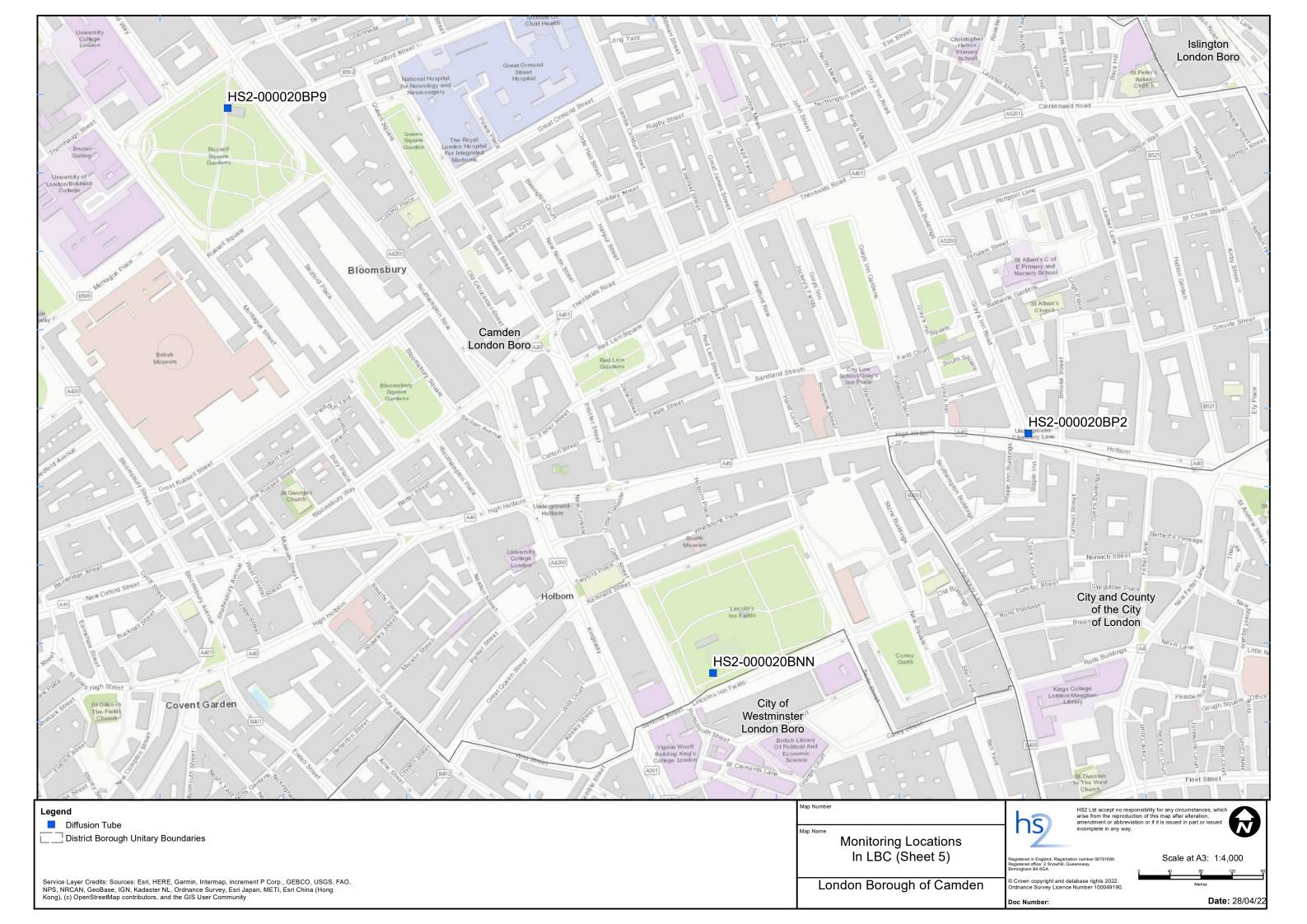
Figure 1 to Figure 5: Worksites and monitoring locations within the LBC











## **Appendix B - Dust Monitoring Results**

Table 2: Dust monitoring locations and August 2022 results

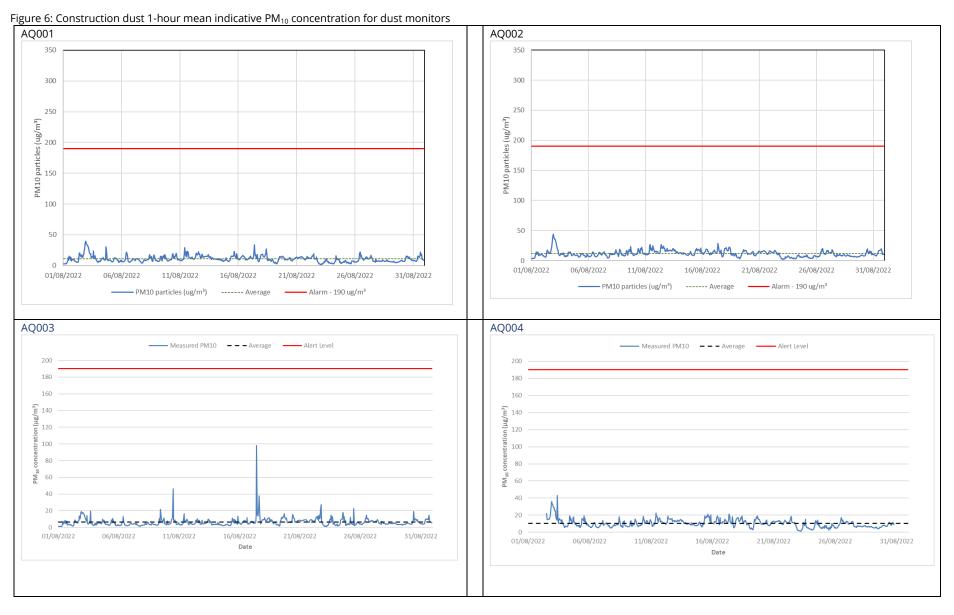
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (μg/m³)	Minimum 1- hour PM <sub>10</sub> concentration (μg/m³)	Maximum 1- hour PM <sub>10</sub> concentration (μg/m³)	Number of 1- hour periods exceeding trigger level of 190 µg/m³	Data capture (%)
AQ001	529016, 183049	Stanhope Street and Granby Terrace	М	Yes	N	10.7	1.5	39.5	0	100.0
AQ002	528924, 183130	Park Village East	М	Yes	N	11.7	1.8	43.9	0	100.0
AQ003	529273, 182698	St James' Gardens	М	Yes	N	6.4	1.1	98.2	0	100.0
AQ004	529533, 182519	Melton Street	Н	Yes	N	10.5	1.5	43.1	0	91.7
AQ005	529498, 182502	Stephenson Way	Н	No	N	-	-	-	-	0.0
AQ006	529388, 182524	Euston Street	Н	Yes	N	-	-	-	-	0.0
AQ007	529361, 182574	Drummond Street	Н	Yes	N	10.6	0.3	62.2	0	99.3
AQ008	529372, 182657	Cobourg Street	Н	Yes	N	6.6	0.1	135.3	0	90.3
AQ009	529707, 182730	Eversholt Street	Н	Yes	N	7.0	1.0	80.4	0	99.7
AQ010	529223, 182746	Hampstead Road South	М	Yes	N	16.5	1.5	67.7	0	99.3
AQ011	529176, 182922	Hampstead Road	М	Yes	N	15.9	2.0	214.2	1	94.5
AQ012	529144, 182941	Rear of Coniston House	М	Yes	N	14.7	1.8	173.4	0	93.0

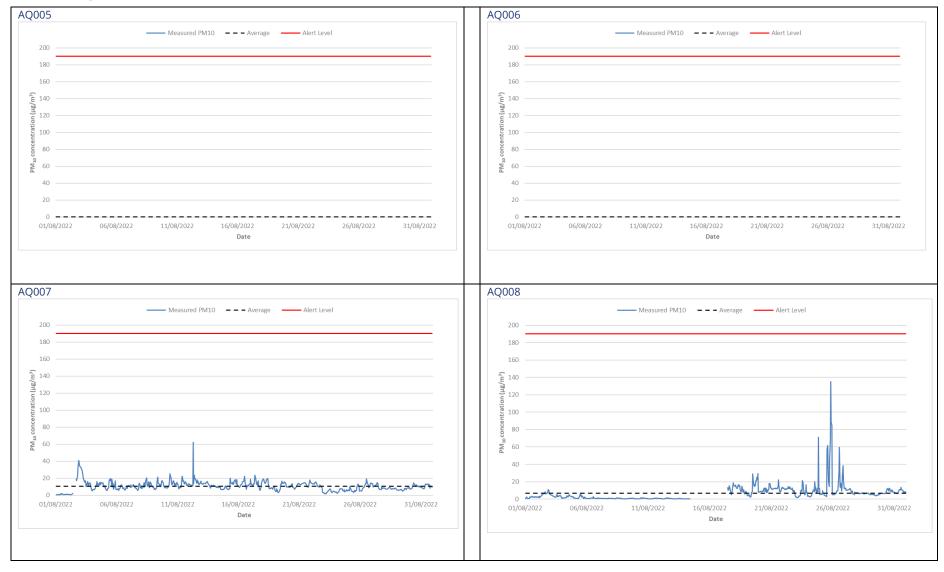
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (μg/m³)	Minimum 1- hour PM <sub>10</sub> concentration (μg/m³)	Maximum 1- hour PM <sub>10</sub> concentration (μg/m³)	Number of 1- hour periods exceeding trigger level of 190 µg/m³	Data capture (%)
AQ013	529066, 182990	Regents Park Estate	М	Yes	N	20.3	2.7	794.5	4	96.6
AQ016	528820, 183498	Mornington Terrace North	М	Yes	N	13.9	2.5	46.9	0	100.0
AQ017	528962, 183274	Mornington Terrace South	М	Yes	N	8.8	1.4	157.1	0	100.0
AQ018	529192, 183071	Hampstead Road North	М	Yes	N	9.9	1.9	54.2	0	100.0
AQ019	528689, 183500	Park Village East (North)	М	Yes	N	14.7	2.2	48.8	0	100.0
AQ020	529109, 182605	Netley School	n/a	Yes	N	10.7	1.8	38.0	0	99.6
AQ021	529136, 183086	Hampstead Road & Granby Terrace Bridge	М	Yes	N	11.3	1.7	40.8	0	100.0
AQ044	527725, 184369	Adelaide Road 1	М	Yes	N	15.7	1.7	285.3	2	100.0
AQ045	527826, 184375	Adelaide Road 2	М	Yes	N	7.8	1.0	104.0	0	77.5

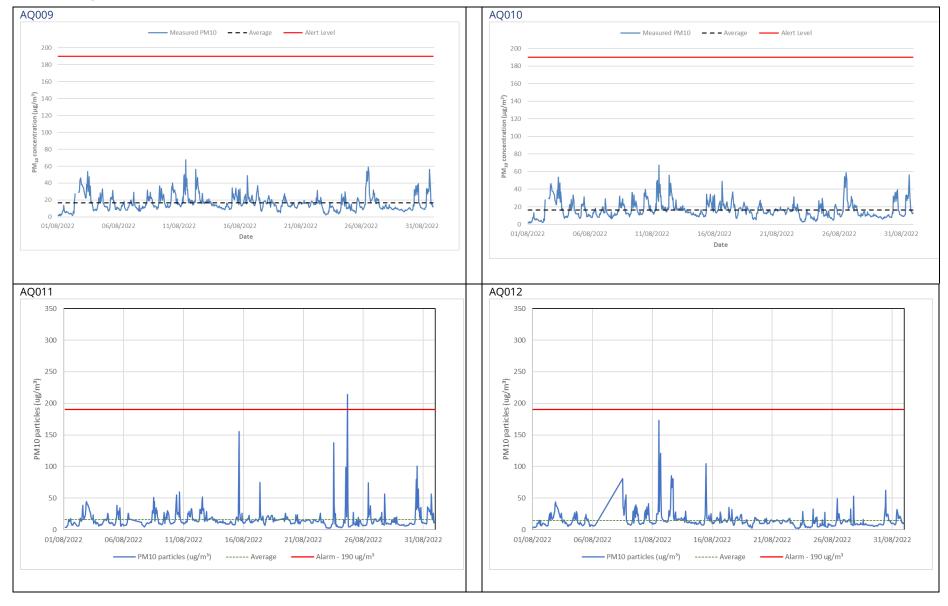
Table 3: Summary of exceedances of trigger level in August 2022

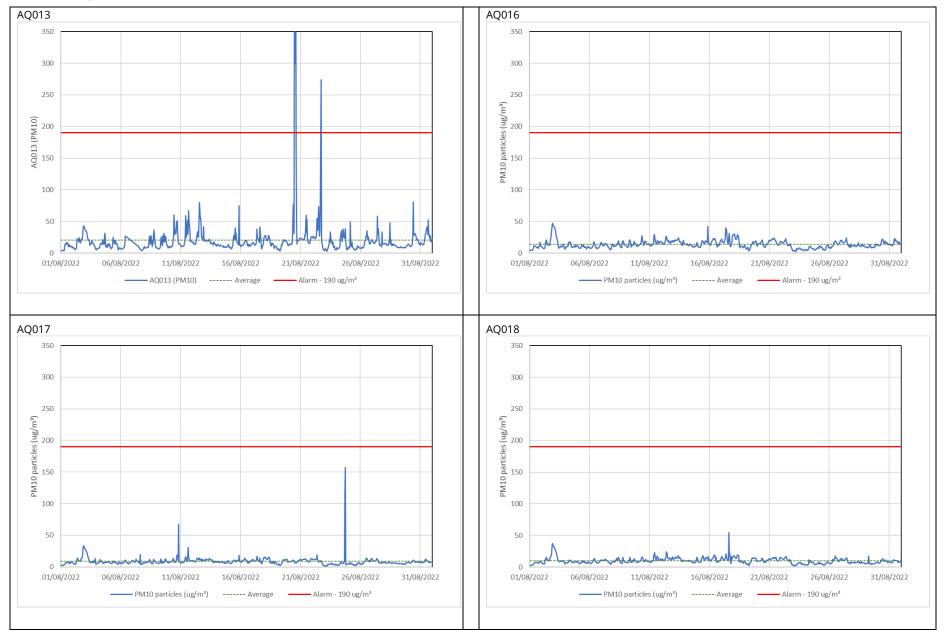
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ044	19/08/2022 08:00-09:00; 215.6 μg/m <sup>3</sup>	This trigger alert was due to a power cut to the monitor and not due to any dusty activities on site. Monitored data either side was low and light rain in the morning.  Subsequent to this trigger (during August) it become evident that there were intermittent power issues to both onsite monitors, with AQ045 losing data and AQ044 continuing on internal battery but with erratic spikes in data.	Power issues to both monitors were investigated and resolved during late August.  Activities in the area of AQ044 had not changed drastically between July and August with July being drier but August monitoring data more erratic.  Regardless, site operatives were reminded to remain vigilant with regards to dust suppression across site.
AQ013	20/08/2022 11:00-12:00; 507.5 μg/m <sup>3</sup> 12:00-13:00; 299.1 μg/m <sup>3</sup> 13:00-14:00; 794.5 μg/m <sup>3</sup>	At the time of the trigger alerts (x3) from dust monitor (AQ013), which is located on the south-western boundary of the Euston Throat Retained Cut (ETRC) the adjacent bank of generators was being decommissioned and removed from site to transfer power to mains supply.  This meant that the power supply to the monitor was temporarily cut and the monitor was running on internal battery until mains supply was subsequently restored. During this time the internal pump and the heater of the monitor would not have been functioning at full capacity/properly.  Albeit the decommissioning and removal of generators and ancillary equipment were taking place directly adjacent to the monitor they were not dusty works. It is considered the exaggerated monitored levels were due to the internal pump and heater of the monitor not functioning properly as opposed to excessive levels of dust.	n/a
AQ013	22/08/2022 16:00-17:00; 274.0 μg/m <sup>3</sup>	Following the removal of the bank of generators at the weekend the last bit of housekeeping and tidying was taking place at the end of the working day, again directly adjacent to the monitor, and it is considered this is the reason for the isolated trigger alert.	Dust suppression will continue to be an integral part of general site and housekeeping activities.
AQ011	24/08/2022 15:00-16:00; 214.2 μg/m <sup>3</sup>	At the time of the trigger alert from dust monitor (AQ011), which is located on the southern boundary of the Euston Throat Retained Cut (ETRC) near to Cartmel House 4x concrete 'pockets' were being broken-out in preparation for forthcoming works directly adjacent to the monitor.  Dust suppression was not being employed at the time of work and on receipt of the trigger the works were immediately stopped.  Over the same period the nearby monitor, AQ012 at the rear of Coniston House, measured no elevated levels, so it is considered the monitor was picking up levels from the immediate activities.	Dust suppression was deployed and the team undertaking the work were re-briefed prior to works re-commencing. A dust management toolbox talk was also carried out at the next day start of shift briefing.

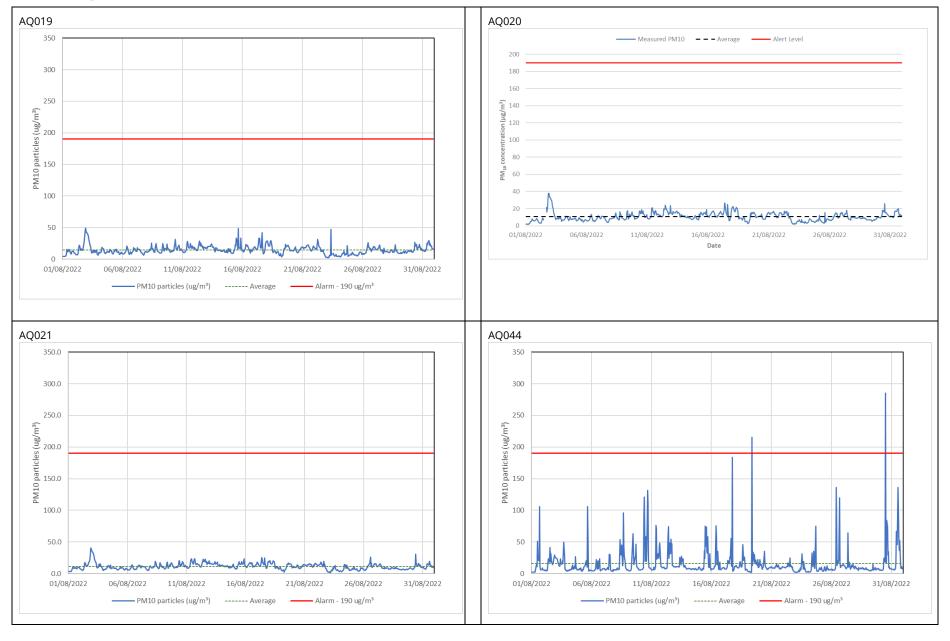
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ044	30/08/2022 285.3 μg/m <sup>3</sup> 11:00 -12:00	This trigger alert was due to a power cut to the monitor and not due to any dusty activities on site. Site foreman investigated immediately on receipt of the alert.  Connection was lost at approx. 13:00 which was then restored later in the hour.  There have been a few issues of intermittent power during July at Adelaide Road affecting the two monitors. AQ045 with intermittent data loss and AQ044 with erratic spikes.	Power supply issues were investigated and resolved in the subsequent days.  The site team will maintain vigilance with regards to dust suppression across site.

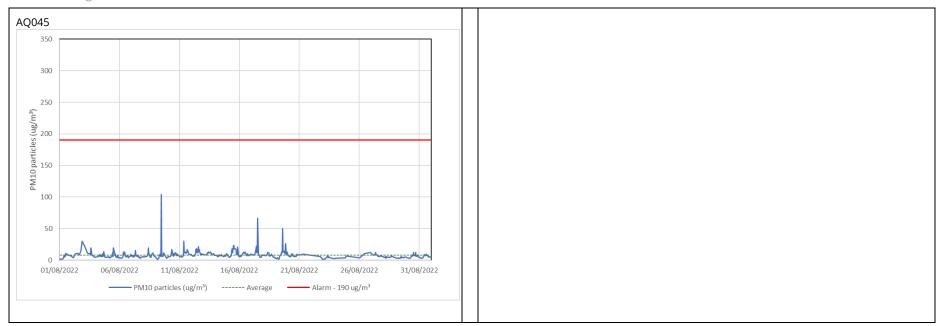












## **Appendix C - Air Quality Monitoring Results**

Table 4: NO<sub>2</sub> monitoring locations around highways, NO<sub>2</sub> concentrations and monthly monitoring results with running mean for 2022 (µg/m<sup>3</sup>)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
HS2- 000020BM5	Junction of St Chad's Street and Grays Inn Road	530436, 182929	55	40	48	42	34	34	39						42
HS2- 000020BM7	Chalton Street	529894, 182702	Tube Missing	Tube Missing	62	46	41	38	Tube Missing						47
HS2- 000020BM8	Junction of Euston Square and Grafton Place	529737, 182641	Tube Missing	51	59	49	51	45	49						51
HS2- 000020BM9	Junction of Endsleigh Gardens and Upper Woburn Place	529785, 182529	61	44	58	47	38	38	42						47
HS2- 000020BMA	Junction of Euston Road and Gower Street	529429, 182375	Tube Missing	44	57	43	41	31	41						43
HS2- 000020BMB	Whitfield Street	529273, 182114	51	37	50	35	28	26	28						36
HS2- 000020BMC	Hampstead Road	529232, 182511	70	52	71	55	52	54	60						59
HS2- 000020BMF	Junction of Polygon Road and Ossulston Street	529715, 183123	42	27	55	28	25	21	23						32
HS2- 000020BMH	Nash Street	528861, 182717	46	31	45	28	26	26	27						33
HS2-000020BMJ	Junction on Robert Street and Stanhope Street	529080, 182698	41	31	47	33	28	25	27						33

<sup>&</sup>lt;sup>1</sup> 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	Location	Coordinates	la.c	e de	Man			l	test	0	<b>C</b>	0-4	Niere	D	NA 1
Site ID	description	(X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
HS2- 000020BMK	Junction of Plender Street and Bayham Street	529196, 183546	56	Tube Missing	54	37	36	37	38						43
HS2- 000020BML	Junction of Arlington Road and Mornington Crescent	529093, 183356	48	30	44	28	23	20	22						31
HS2- 000020BMM	Junction of Bayham Street and Pratt Street	529084, 183722	Tube Missing	49	52	37	44	Tube Missing	40						44
HS2- 000020BMN	Junction of Delancey Street and Albert Street	528850, 183573	53	34	43	32	30	26	26						35
HS2- 000020BMQ	Junction of Parkway and Delancey Street	528662, 183604	51	30	60	40	33	33	37						40
HS2- 000020BMR	Junction of Oval Road and Jamestown Road	528548, 183967	49	31	43	29	24	18	22						31
HS2- 000020BMS	Junction of Chalk Farm Road and Castlehaven Road	528685, 184188	50	41	50	38	36	31	34						40
HS2- 000020BMT	Junction of Camden Road and Camden Street	529079, 184043	60	Tube Missing	53	44	35	31	33						43
HS2- 000020BMU	Junction of Southampton Road and Fleet Road	527783, 185407	53	37	53	37	32	29	32						39
HS2- 000020BMV	Primrose Hill Road	527538, 184250	57	Tube Missing	42	28	25	18	23						32
HS2- 000020BMW	Junction of Finchley Road and Hilgrove Road	526619, 184081	66	52	64	48	41	37	44						50
HS2- 000020BMZ	Junction of Finchley Road and Hendon Way	525102, 186042	88	62	83	59	50	52	60						65

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
HS2- 000020BNA	Junction of Regent's Park Road and Rothwell Street	527884, 183980	48	33	38	Tube Missing	21	22	Tube Missing						32
HS2- 000020BNC	Junction of Outer Circle and Gloucester Gate	528528, 183443	38	19	39	25	18	14	20						25
HS2- 000020BNH	Junction of Parkway and Albert Street	528763, 183720	50	Tube Missing	Tube Missing	Tube Missing	24	24	28						32
HS2- 000020BNN	Lincoln's Inn Fields	530744, 181308	47	34	39	26	25	24	26						31
HS2- 000020BNQ	Camley Street	529735, 183737	62	Tube Missing	42	32	30	22	22						35
HS2-000020BNY	Junction of Mill Lane and Hillfield Road	524839, 185136	60	39	43	34	27	25	32						37
HS2-000020BNZ	Mansfield Road	528050, 185508	50	36	37	26	27	26	27						33
HS2-000020BP0	Junction of Camden Road and Torriano Avenue	529708, 184871	63	Tube Missing	56	42	38	40	Tube Missing						48
HS2-000020BP2	Junction of Grays Inn Road and Holborn	531149, 181616	59	40	48	33	33	29	31						39
HS2-000020BPB	Camden High Street	528966, 183735	78	Tube Missing	65	50	49	50	52						57
HS2-000020BPC	Castlehaven Road	528788, 184591	52	Tube Missing	39	27	24	18	22						30
HS2- 000020BPD	Prince of Wales Road	528571, 184683	46	32	37	25	19	17	18						28
HS2-000020BPE	Haverstock Hill	527710, 184749	55	41	39	28	32	22	29						35
HS2-000020BPF	Junction of Primrose Gardens and England's Lane	527549, 184640	54	38	49	31	26	24	29						36

Monitoring	Location	Coordinates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
Site ID	description	(X, Y)	Juli	160	Wildi	Дрі	May	Juli	Jui	Aug	эср		1404	Dec	Wican
HS2- 000020BPU	Junction of Gower Street and Grafton Way	529476, 182267	Tube Missing	37	49	38	35	33	39						39
HS2- 000020BPW	Junction of Delancey Street and Arlington Road	528939, 183637	53	34	49	36	29	27	30						37
HS2-000020BPX	Netley Street	529177, 182625	48	30	50	34	26	18	27						33
HS2-000020BPY	Stanhope Street	529060, 182947	47	Tube Missing	46	31	25	21	23						32
HS2-000020BPZ	Albany Street	528790, 182923	31	29	45	31	26	24	26						30
HS2- 000020BQ0	Werrington Street	529493, 183113	44	28	40	26	19	18	20						28
HS2- 000020BQ1	Polygon Road	529574, 183045	44	31	42	28	Tube Missing	19	21						31
HS2- 000020BQ2	Alexandra Place	526320, 183980	45	30	42	26	22	17	22						29
HS2- 000020BQ3	Harrington Square	529228, 183172	55	Tube Missing	60	41	36	29	35						43
HS2- 000020BQ4	Junction of North Gower Street and Starcross Street	529290, 182572	52	25	52	33	26	21	26						33
HS2- 000020BQ5	Adelaide Road	527713, 184392	53	41	48	30	31	24	28						37
HS2- 000020BQ6	Mornington Terrace	528836, 183474	47	30	42	25	22	19	21						29
HS2- 000020BQ7	Arlington Road	529009, 183479	46	28	38	25	22	18	20						28
HS2- 000020BQ8	Clarkson Row	529024, 183213	48	33	44	27	25	23	24						32
HS2- 000020BQ9	Park Village East	528923, 183121	Tube Missing	28	44	31	23	22	24						29
HS2- 000020BQA	Eversholt Street	529386, 183132	50	52	60	39	40	39	37						45

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
HS2- 000020BQB	Junction of Harrington Street and Varndell Street	529147, 182816	45	27	42	32	22	20	21						30
HS2- 000020BQC	Junction of Robert Street and Hampstead Road	529199, 182704	51	30	53	37	27	26	28						36
HS2- 000020BQD	Drummond Crescent	529648, 182856	52	35	51	34	32	27	26						37
HS2-000020BQJ	Grafton Way	529380, 182225	Tube Missing	47	50	43	44	41	40						44
HS2-000020BQL	Delancey Street	528768, 183581	60	37	57	43	33	26	35						42
HS2- 000020BQR	Lamp post on Park Village East	528682, 183505	47	29	47	27	23	20	24						31
HS2-000020BQS	Opposite Maria fidelis school on Phoenix Road	529670, 182982	39	28	45	27	24	19	20						29
HS2- 000020BQT	Drummond Street	529385, 182581	50	32	52	33	29	19	24						34
HS2- 000020BQX	Lamp post on Brunswick Square	530344, 182236	56	37	45	30	31	27	29						37
HS2-000020BP4	Triplicate site on Finchley Road next to Swiss Cottage kerbside automatic monitoring station	526633, 184392	74	50	76	49	41	41	49						54
HS2-000020BP5	Triplicate site next to the Euston Road roadside automatic monitoring stations	529895, 182657	Tube Missing	Tube Missing	67	Tube Missing	Tube Missing	Tube Missing	Tube Missing						67

Air Quality and Dust Monitoring Summary Report, July 2022 London Borough of Camden

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>1</sup>
HS2-000020BP9	Triplicate site in Russell Square next to Bloomsbury urban background automatic monitoring station	530120, 182034	54	36	42	34	27	21	24						34