HS2

October 2019

Air Quality and Dust Monitoring Monthly Report – October 2019

London Borough of Ealing

COSTAIN SKANSKA

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Department for Transport

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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 Ealing (LBE) during September 2019 and October 2019 respectively.

1.1.2 Figure 1 and Figure 2 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 demolition works commenced within the LBE during April 2018 and are expected to be completed by December 2019. The next phase of construction works commenced in October 2019 and is expected to be completed by 2025. The current and completed worksites, as presented in Appendix A, Figure 1 and Figure 2, include:

Current -

- Demolition of buildings on Atlas Road, worksite ref. S001-WS05;
- Demolition and groundworks at Old Oak Common Depot (located in the London Borough of Hammersmith and Fulham), worksite ref. S004-WS01;
- Victoria Road Crossover Box and Flat Iron Site mobilisation and site set up, works site ref: S002-WS01; and
- Willesden Euro Terminal mobilisation and site set up, works site ref: S001-WS03

Completed -

- Demolition of buildings on Victoria Road, worksite ref. S002-WS01;
- Demolition works at Willesden Euro Terminal, worksite ref. S001-WS03; and
- Demolition of buildings at Mandeville Road Pumping Station, worksite ref. S002-WS02.

1.1.5 Nine (9) dust monitors were installed around worksites, where works 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. 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 of 190 µg/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 There were five (5) dust trigger alerts recorded during this monitoring period (October 2019). Dust trigger alerts are presented in Appendix B, Table 2. All other results were in line with expected ranges.

1.1.9 Diffusion tube monitoring of Nitrogen Dioxide (NO_2) was undertaken at six (6) locations in September 2019, around highways within the LBE as part of the management of air quality where significant effects may occur as a result of the scheme.

1.1.10 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.

1.1.11 NO_2 monitoring locations and results are presented in Appendix C, Table 3, together with the 2019 running mean.

1.1.12 There were no (0) complaints received, relating to air quality or dust, during this monitoring period (October 2019).

Appendix A – Worksites and Monitoring Locations

Figure 1 and 2: Worksites and monitoring locations within the LBE

HARROW LONDON BORO

WEMBLEY

BRENT LONDON BORO

AQ032

S002-WS02

NORTHOLT

EALING LONDON BORO

HS2-000020BP7

GREENFORD

HILLINGDON LONDON BORO

EALING

Legend

- District/Borough boundary
- Route in tunnel
- Route on surface
- HS2 Chainage Markers
- Diffusion tube monitoring location
- Mandeville Road Pumping Station
- Dust monitoring location

Figure Number

Figure Name

Worksites and Monitoring locations in LBE (sheet 1)

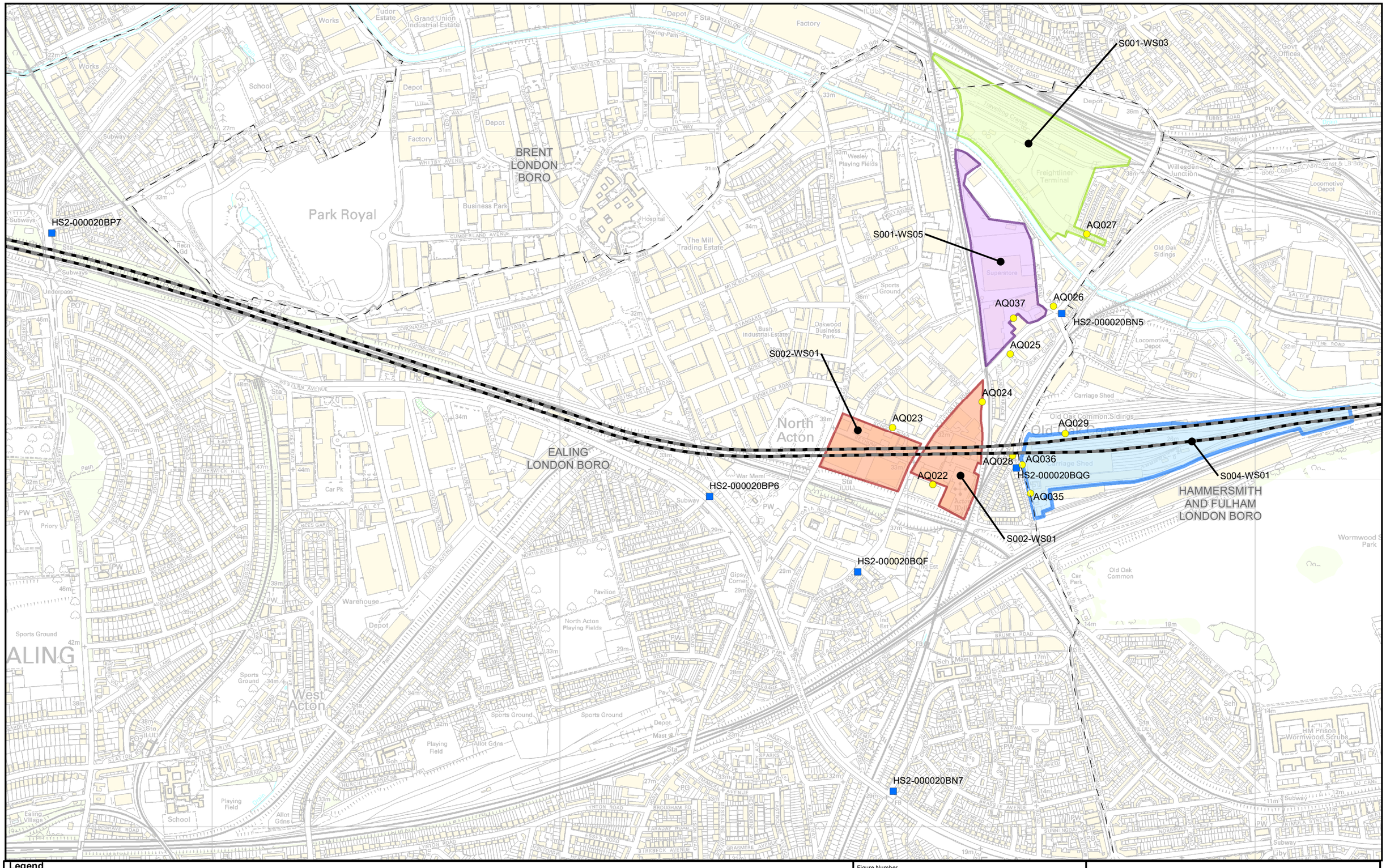
London Borough of Ealing

Scale at A3: 20,000

0 200 400 600 800

Metres

Map Number: 1EW02-CSJ-EV-REP-S000-000017_appAFig1.pdf **Date:** 16/07/18



Legend

- Route in tunnel
- Route on surface
- Diffusion tube monitoring location
- Dust monitoring location
- Willesden Euro worksite
- Victoria Road worksite
- Old Oak Common worksite
- Atlas Road worksite

Figure Number

Figure Name
Worksites and Monitoring locations in LBE (sheet 2)

London Borough of Ealing

Scale at A3: 10,000

0 100 200 300 400 Metres

Map Number: 1EW02-CSJ-EV-REP-S000-000017_appAFig1.pdf **Date:** 12/07/19

Appendix B – Dust Monitoring Results

Table 1 Dust monitoring locations and October 2019 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 (%)
AQ022	521072, 181985	Boden House	H	Yes	Y	10.2	0.7	47.6	0	100.0
AQ023	520956, 182149	School Road	H	Yes	Y	11.3	1.1	53.7	0	100.0
AQ024	521214, 182223	Braitrim House	H	Yes	Y	11.9	1.5	50.2	0	100.0
AQ025	521295, 182360	Victoria Road	H	Yes	N	13.9	1.2	52.8	0	100.0
AQ026	521419, 182497	Old Oak Lane	H	Yes	N	13.8	0.9	48.6	0	100.0
AQ027	521515, 182706	Stephenson Street	H	Yes	N	13.4	1.0	53.5	0	100.0
AQ028	521302, 182067	Wells House Road	H	Yes	N	24.0	0.3	364.3	5	97.7
AQ032	513402, 184536	Badminton Close	M	Yes	N	8.8	0.9	38.1	0	100.0
AQ037	521304, 182464	Atlas Road	H	Yes	N	11.0	0.8	50.5	0	99.7

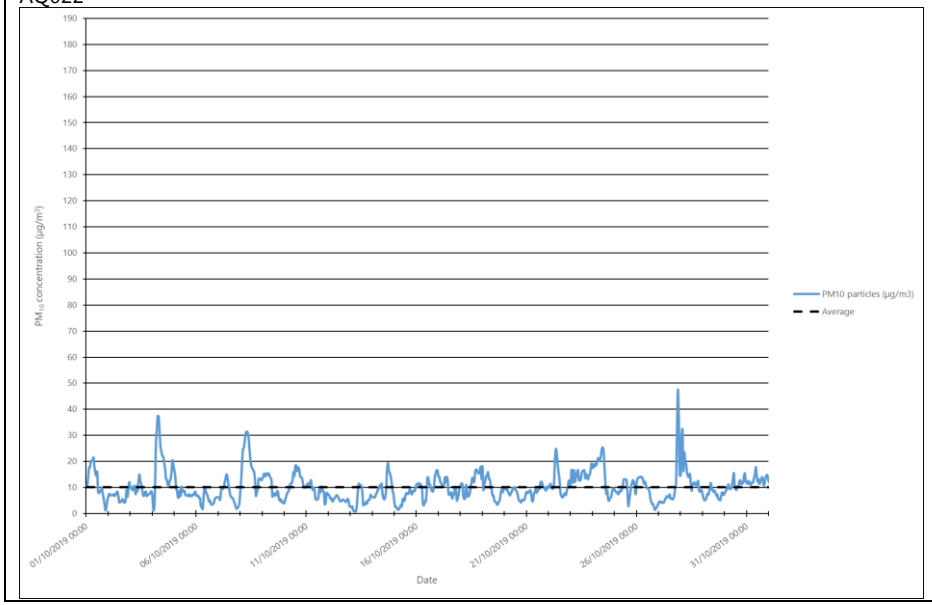
Table 2 Summary of exceedances of trigger level in October 2019

Period exceeding trigger level	Worksite reference	Monitoring site ID	Complaint reference number (if applicable)	Reason	Resolution
10/10/2019 13:01 – 14:00	S004-WS01	AQ028	n/a	The alert was investigated by the site team and it was considered the trigger was not associated with HS2 works as all necessary dust suppression measures were being employed as they have throughout the works. The other three (3) boundary monitors which are closer to the works showed no increased levels over this same period. There were road works being carried out directly beneath the monitor (not HS2 related) – which appear to be new traffic calming measures being installed. It is considered this was the cause of the alert.	n/a
22/10/2019 11:01 – 13:00 (x2 alerts)	S004-WS01	AQ028	n/a	It was considered the triggers were due to dust on the road from dried out mud tracked-out from the HS2 Old Oak Common Depot site. The site usually deployed a road sweeper each day, throughout the day, which drove a circuit from the site, up Old Oak Common Lane to the junction with Victoria Road and back. The driver on the day called in sick and a replacement didn't arrive until late afternoon.	The road sweeper will continue its daily circuit. This includes internal road hardstanding on egress from the site The site wheel wash was cleaned out the following day as it is every two (2) months. This service period will be regularly kept under review during the autumn and winter months to ensure the wheel wash continues to be effective. A team of operatives was deployed to sweep the pavements/crossings etc along Old Oak Common Lane and will be deployed every two (2) to three (3) weeks thereafter.
22/10/2019 17:01 – 19:00 (x2 alerts)	S004-WS01	AQ028	n/a		

Period exceeding trigger level	Worksite reference	Monitoring site ID	Complaint reference number (if applicable)	Reason	Resolution
					Gullies along Old Oak Common Lane will be checked and flushed where required. Continued implementation of HS2 CoCP road cleanliness measures.

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

AQ022



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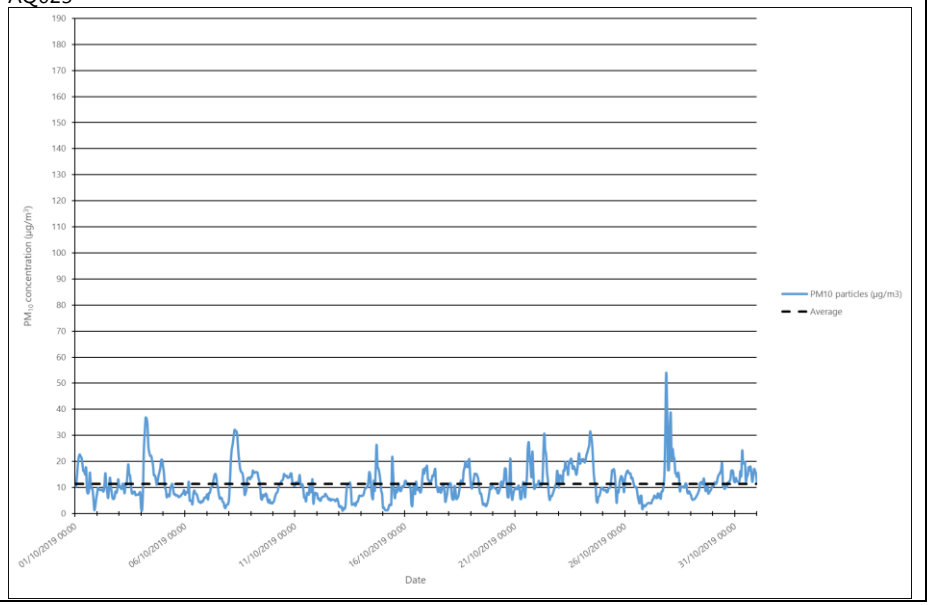

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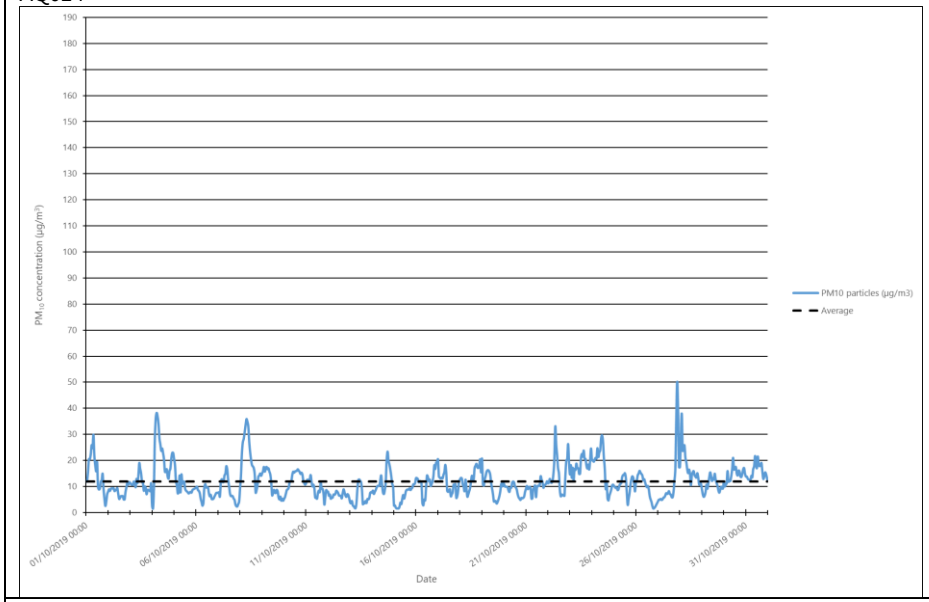

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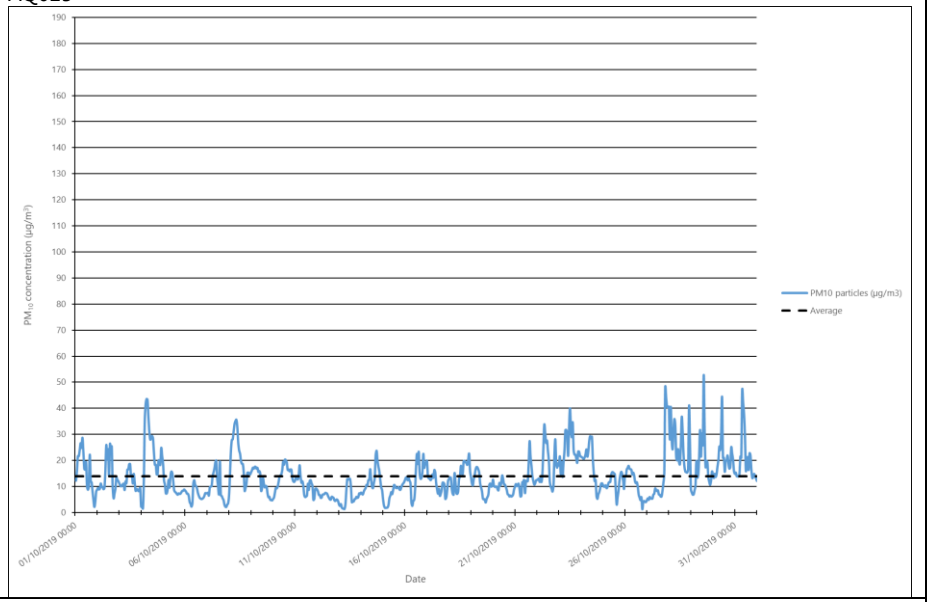

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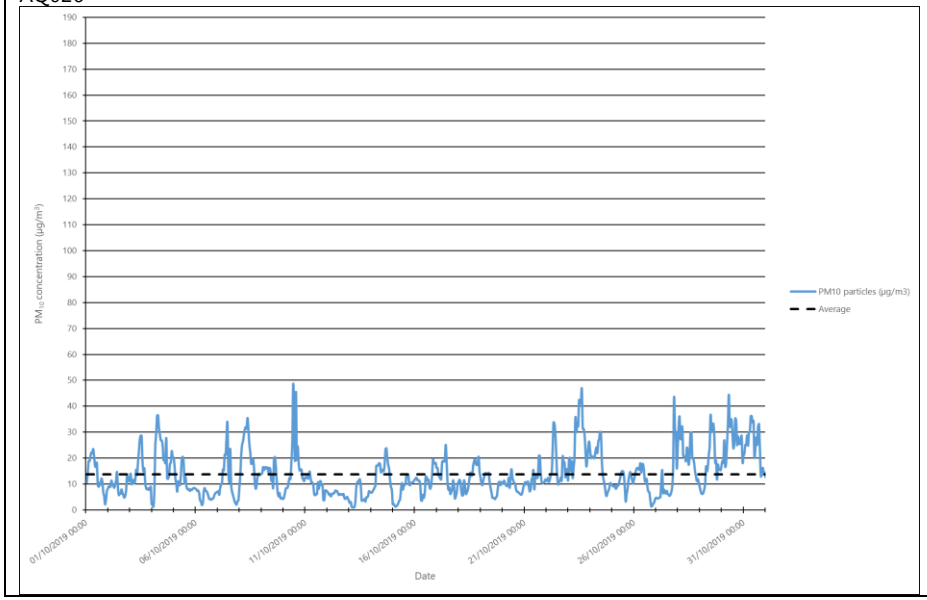

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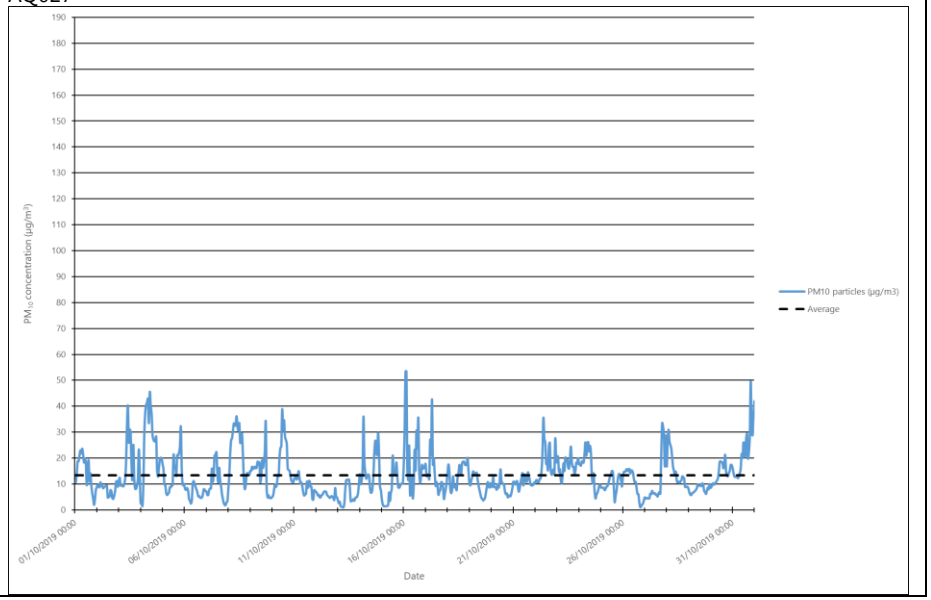

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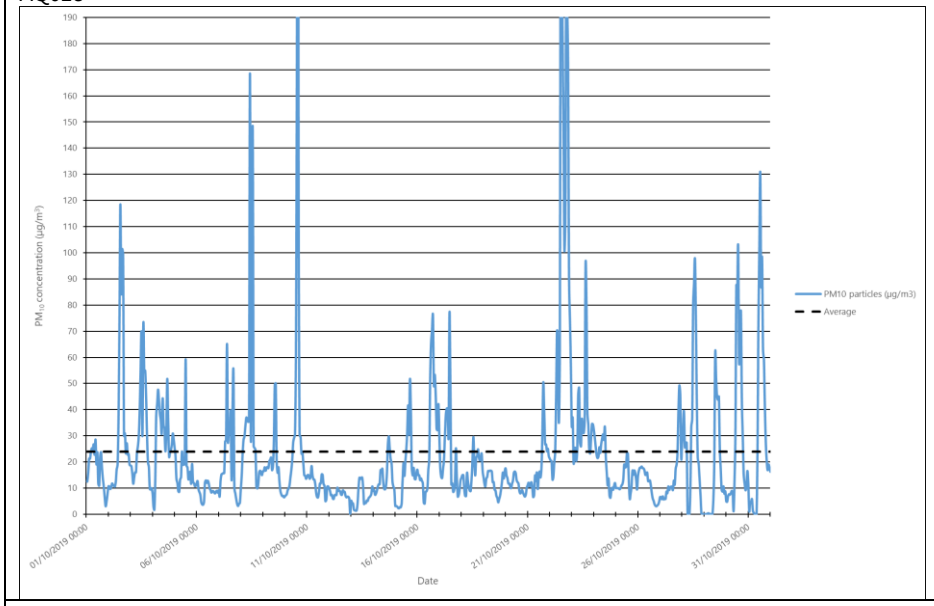

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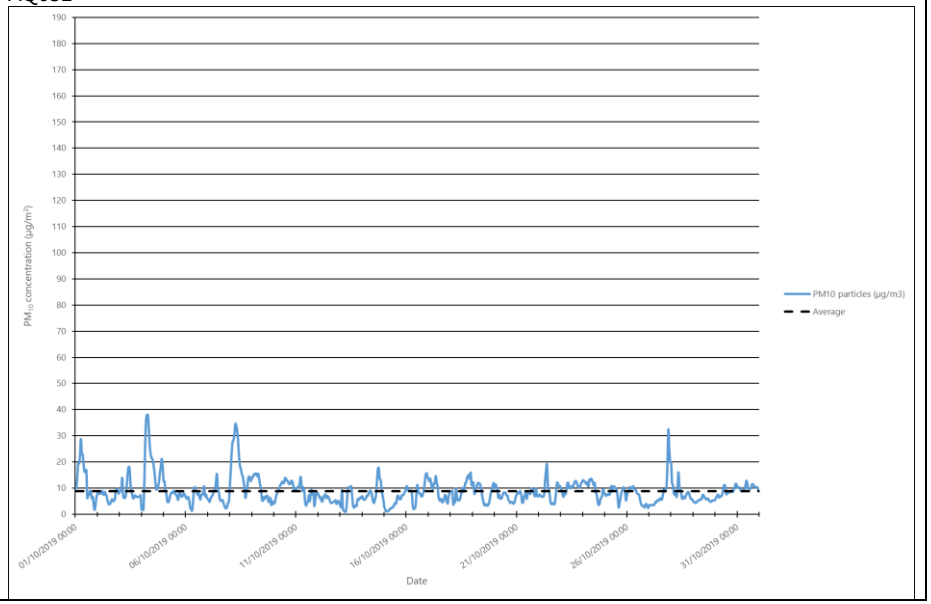
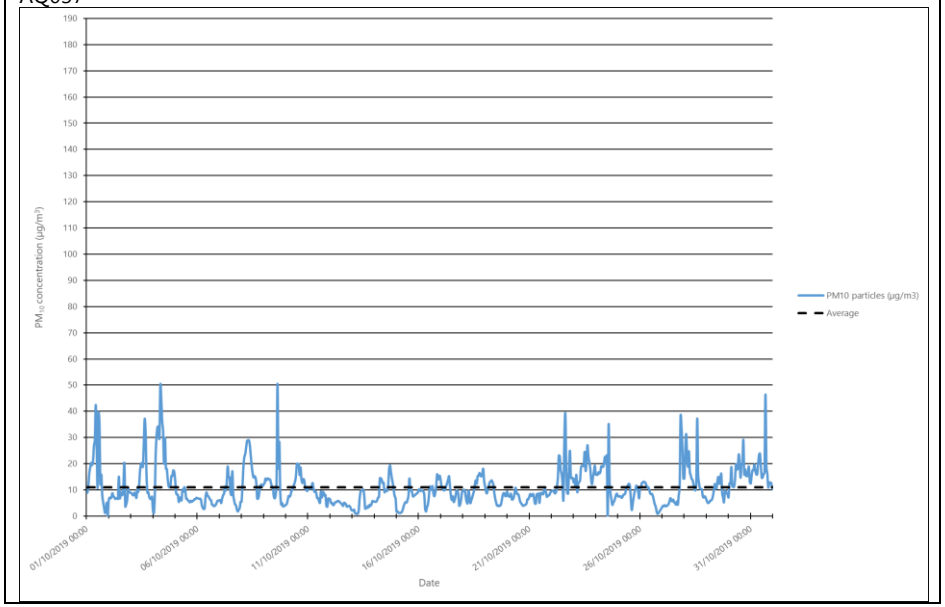


AQ037



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 2019 (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]
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	63	64	Tube missing	54	38	42	Tube missing	44	48				51
HS2-000020BN7	The Approach street sign	520959, 181102	75	77	66	47	46	27	49	59	53				55
HS2-000020BQF	Conway Drive sign post	520856, 181733	69	68	61	59	50	50	48	49	50				56
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	69	63	60	49	42	50	41	41	47				51
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	68	64	54	45	42	55	45	51	56				53
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyratory roadside automatic monitoring station	518537, 182708	83	80	74	49	56	68	63	73	67				68

[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.*