

Air Quality and Dust Monitoring Monthly Report – February 2023

Birmingham City Council



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.

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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 within Birmingham City (BCC) during February 2023.

1.1.2 Figures 1 and 2 in Appendix A indicates the current worksites together with the dust monitoring locations for February 2023.

1.1.3 This summary should be read in conjunction with the overview monitoring report monthly 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, Figures 1 and 2, include:

Washwood Heath (Sublot 4)

- Setup of the compound area and haulage routes; and
- Demolition and crushing of existing concrete foundations on site.

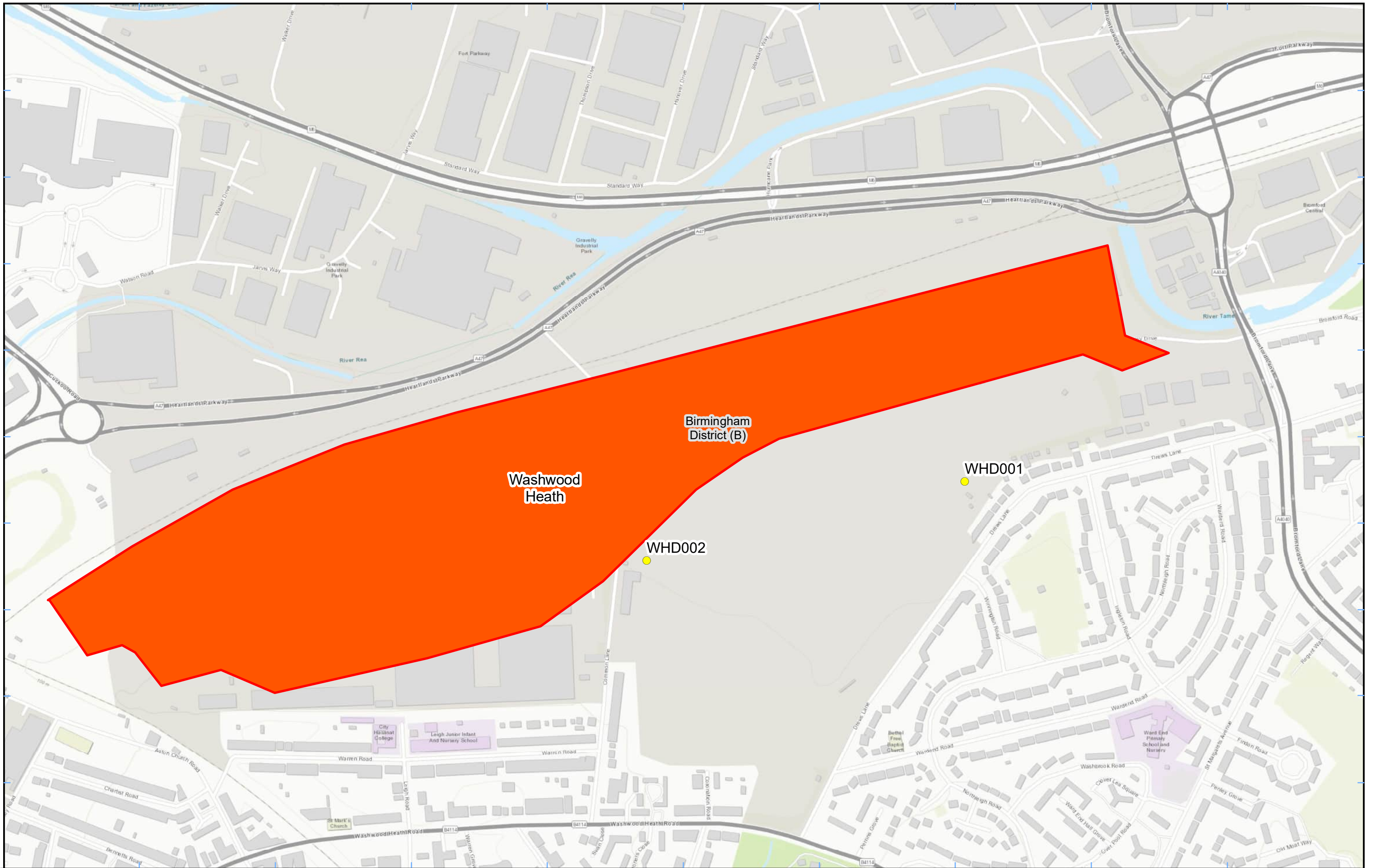
Bromford Tunnel East Portal (Sublot 1B)

- STP2 slab works.
- Gantry assembly at STP2 area.
- National Grid ducting works.
- Ducting works at road crossing car park.
- Installation of noise container at Generator Park.
- Installation of oil interceptor at the pond at Generator Park.
- WPD ducting works for tunnelling.

1.1.5 Four (4) dust monitors are installed on these worksites, where works are underway. These sites returned a medium dust risk rating.

1.1.6 The dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from the dust monitors presented in Figure 3. 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 mitigations.

- 1.1.7 The trigger level for PM₁₀ 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 Details of the trigger alert investigations and remediations are presented in Appendix B, Table 2.
- 1.1.9 There were no (0) complaints received during this reporting period (February 2023).



Legend

- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

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Map Number

Map Name
**Worksite and Monitoring Locations
 In BCC (Sheet 1)**

Birmingham City Council

Map Name
**Worksite and Monitoring Locations
 In BCC (Sheet 1)**

Birmingham City Council

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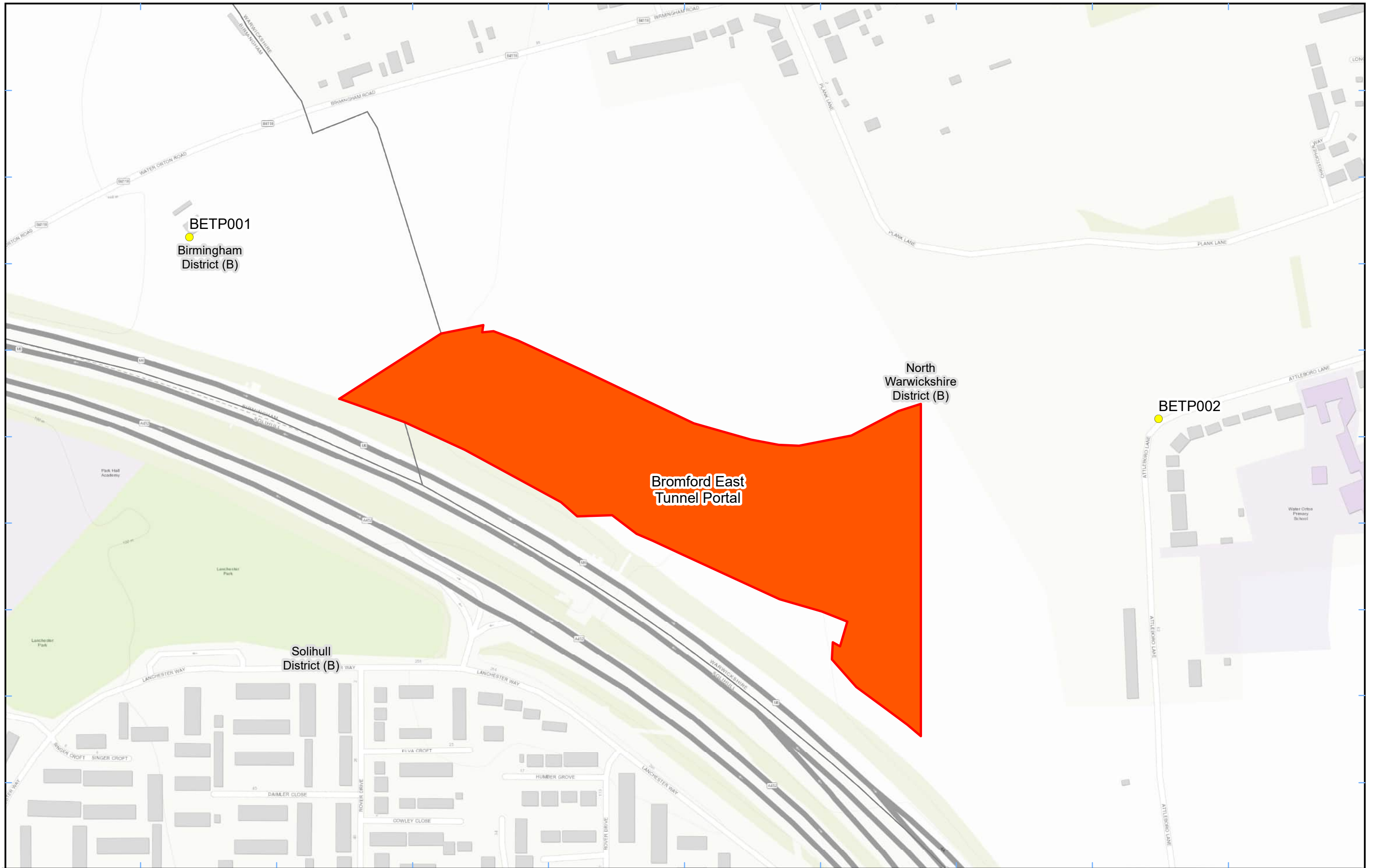
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Legend

- Dust Monitor
- Worksite
- District Borough Unitary Boundaries

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Map Number

Map Name
**Worksite and Monitoring Locations
 In BCC (Sheet 2)**

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 ● Dust Monitor
 □ District Borough Unitary Boundaries

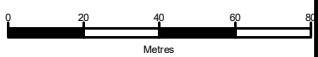
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Map Number
 Map Name
**Monitoring Locations
 In BCC (Sheet 3)**
 Birmingham City County


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Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and February 2023 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/m ³)	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 (%)
WHD001	411221, 289245	Washwood Heath Depot, near receptors on Drews Lane	M	Yes	No	14.9	0.2	71.2	0	100.0
WHD002	410758, 289130	Washwood Heath Depot, near receptors on Common Lane	M	Yes	No	26.9	0.7	424.3	9	100.0
BETP001	416719, 290767	Bromford East Tunnel Portal, Twisted Oak Stables	M	Yes	No	4.1	0.1	109.4	0	96.1
BETP002	417406, 290605	Bromford East Tunnel Portal, Attleboro Lane	M	Yes	No	11.7	0.2	54.1	0	100.0

Table 2: Summary of exceedances during period (February 2023)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
WHD002	07/02/2023 09:00 - 09:59: 382 µg/m ³	On the 7th February 2023, construction works at close proximity to the monitoring station elevated PM ₁₀ concentrations. The works involved crushing of aggregate material with a high degree of fine material, and works were halted.	Following a review of works onsite, crushing of this material was halted until suitable controls were implemented to reduce fugitive dust releases, and crushing of alternative material was done instead. No further exceedances were reported.
	08/02/2023 02:00 - 02:59: 201 µg/m ³ 09:00 - 09:59: 395 µg/m ³	No works were being carried out onsite that were associated with these events. Calm and cold meteorological conditions across the region reduced the dispersion of air and led to pollutants being trapped closer to the surface.	It is considered likely that all exceedances were due to offsite causes and exacerbated by regional meteorological conditions preventing dispersion of pollution across the region.
	14/02/2023 04:00 - 04:59: 197 µg/m ³ 05:00 - 05:59: 239 µg/m ³ 06:00 - 06:59: 245 µg/m ³ 07:00 - 07:59: 248 µg/m ³	It was not clear where the source of PM ₁₀ concentrations came from as no works on site were being carried out in this area. A similar pattern of elevated concentrations of PM ₁₀ was detected at other monitors and at AURN sites within Birmingham, although not to the same extent. Technicians went out to site to check the monitoring equipment's filters and inlets for blockages. The equipment appeared to be in good order, and measured PM ₁₀ concentrations were back at "normal" levels. It has been proposed that this will be monitored over the forthcoming weeks.	It is considered likely that all exceedances were due to offsite causes and exacerbated by regional meteorological conditions preventing dispersion of pollution across the region.
	15/02/2023 08:00 - 08:59: 297 µg/m ³ 09:00 - 09:59: 424 µg/m ³		

Figure 3: Construction dust 1-hour mean indicative PM₁₀ concentration for all dust monitors

