

Air Quality and Dust Monitoring Monthly Report – December 2019

London Borough of Hillingdon



SKANSKA



Department for Transport

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Monthly Summary

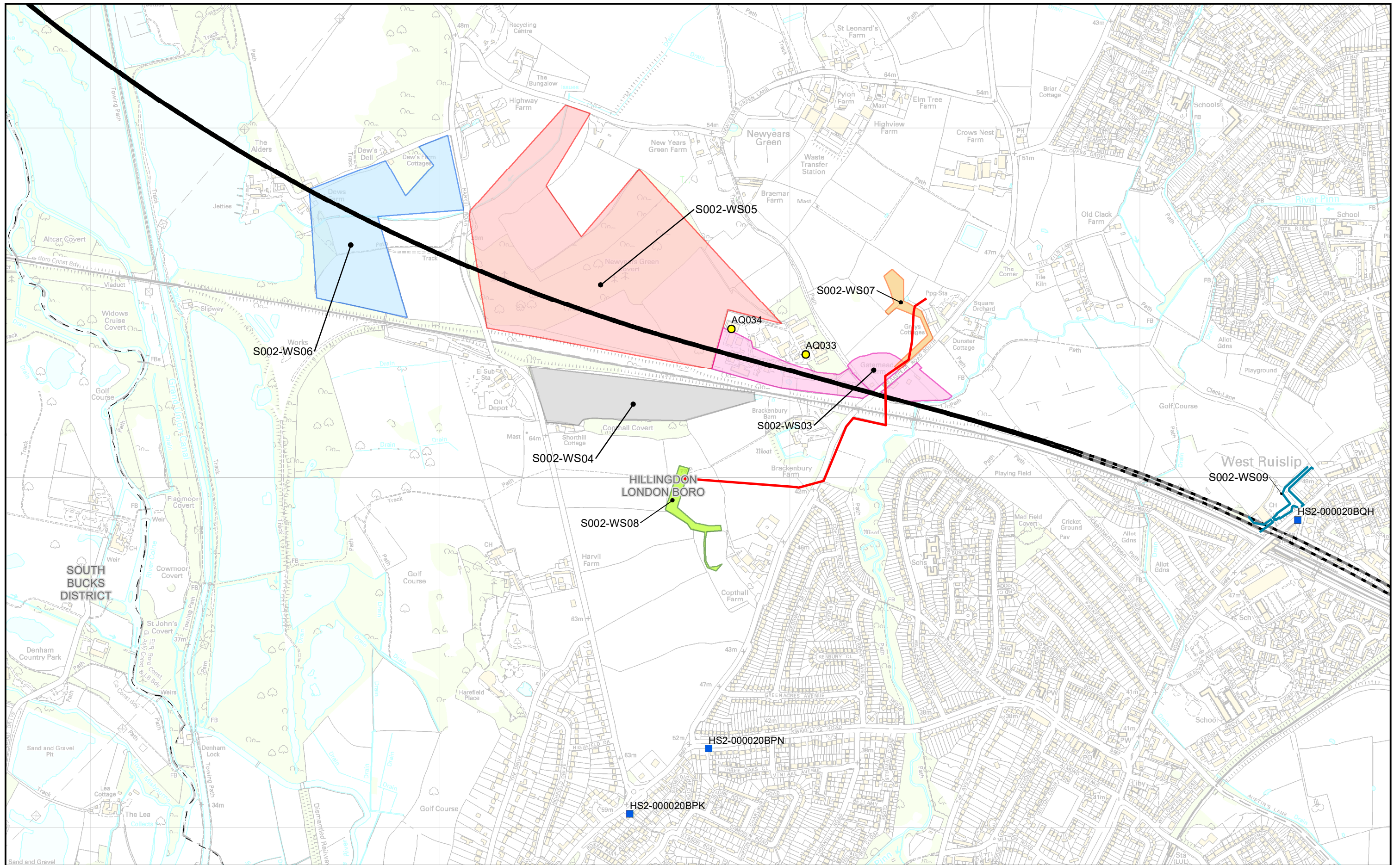
- 1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of air quality and dust monitoring undertaken in the London Borough of Hillingdon (LBH) during November and December 2019 respectively.
- 1.1.2 Figure 1 to Figure 4 in Appendix A indicate the current work sites, together with air quality 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 LBH during May 2018 and are expected to be completed by March 2020. The next phase of construction works commenced in November 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 4, include:
- 18' and 48' gas pipeline diversions, advanced planting and habitat creation, worksite ref. S002-WS05;
 - Merck Sharpe Dohme, demolition works and new access road construction, completed worksite ref. S002-WS03;
 - Utility diversions at Breakspear Road South; work sites ref. S002-WS07 and S002-WS08;
 - Utility diversions at Cophall North, worksite ref. S002-WS06 and South, worksite ref. S002-WS04; and
 - Haul Road construction and site compound and vegetation clearance at West Ruislip Golf Course site, worksite ref. S002-WS09.
 - West Ruislip Portal site mobilisation and site set up, works site ref: S002-WS09;
- 1.1.5 One (1) dust monitor is installed around worksite S002-WS03, where limited demolition works had previously been underway but now complete. This monitoring position is to be reviewed along with the second monitor which had previously been installed at the MSD site during demolition works. The monitors are to be reinstalled/repositioned in February / March 2020 for the future Cophall Cutting and Gatemead Embankment works covering work sites S002-WS03 and S002-WS05. This site has returned a high dust risk rating.
- 1.1.6 The dust monitoring location and results are presented in Appendix B, Table 1 together with line charts of monthly data from the 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 $190 \mu\text{g}/\text{m}^3$, 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 no (0) dust trigger alerts recorded during this monitoring period (December 2019). All results were in line with expected ranges.
- 1.1.9 Diffusion tube monitoring of Nitrogen Dioxide (NO_2) was undertaken at eleven (11) locations in November 2019, around highways within the LBH 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 2, together with the 2019 running mean.
- 1.1.12 There were no (0) complaints received, relating to air quality, during this monitoring period (December 2019).

Appendix A – Worksites and Monitoring Locations

Figure 1 to Figure 4: Current monitoring locations within the LBH



- Legend**
- Route in tunnel
 - Route on surface
 - Dust monitoring location
 - Diffusion tube monitoring location
 - Trunk Main Diversion Route
 - West Ruislip Golf Course

- Copthall North worksite
- Copthall South worksite
- 18' and 48' gas pipeline diversions
- Merck Sharpe Dhome worksite
- Utility Diversion worksite north
- Utility Diversion worksite south

Figure Number

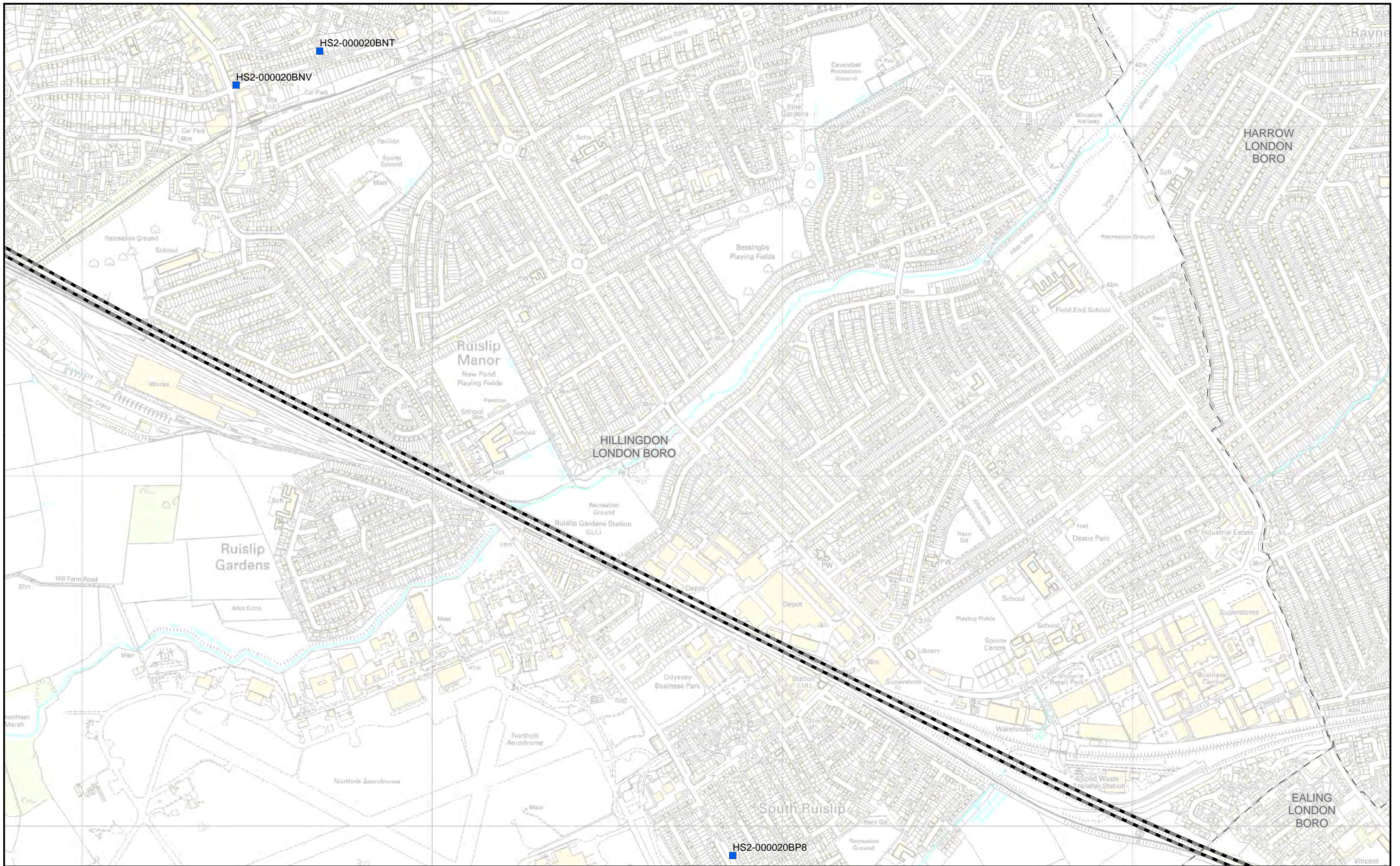
Figure Name
Worksites and Monitoring locations in LBH (sheet 1)

London Borough of Hillingdon

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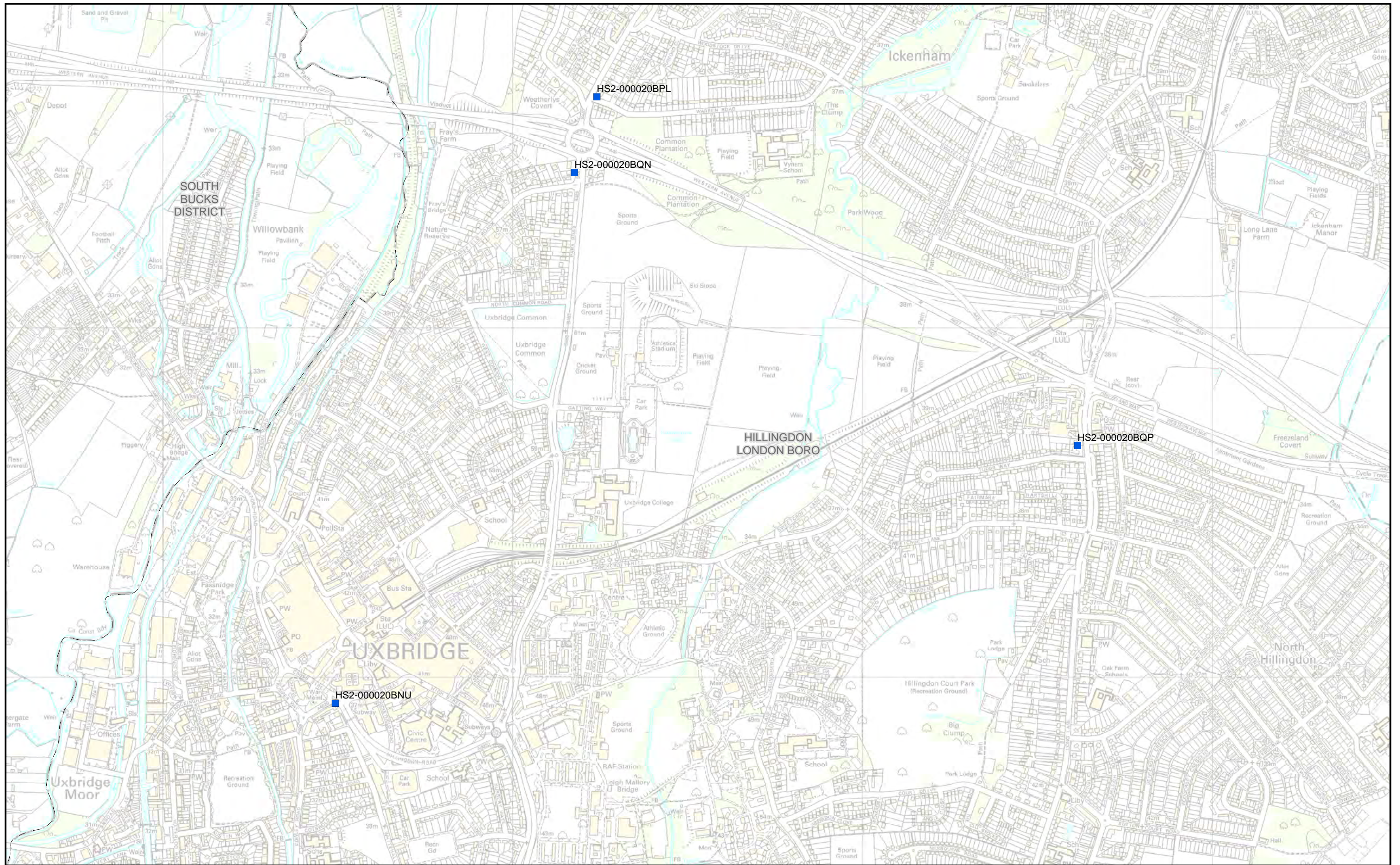
- Legend**
- Route in tunnel
 - Route on surface
 - Diffusion tube monitoring location

| |
|---|
| Figure Number |
| Figure Name Worksites and Monitoring locations in LBH (sheet 2) |
| London Borough of Hillingdon |

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Legend

- Route in tunnel
- Route on surface
- Diffusion tube monitoring location

Figure Number

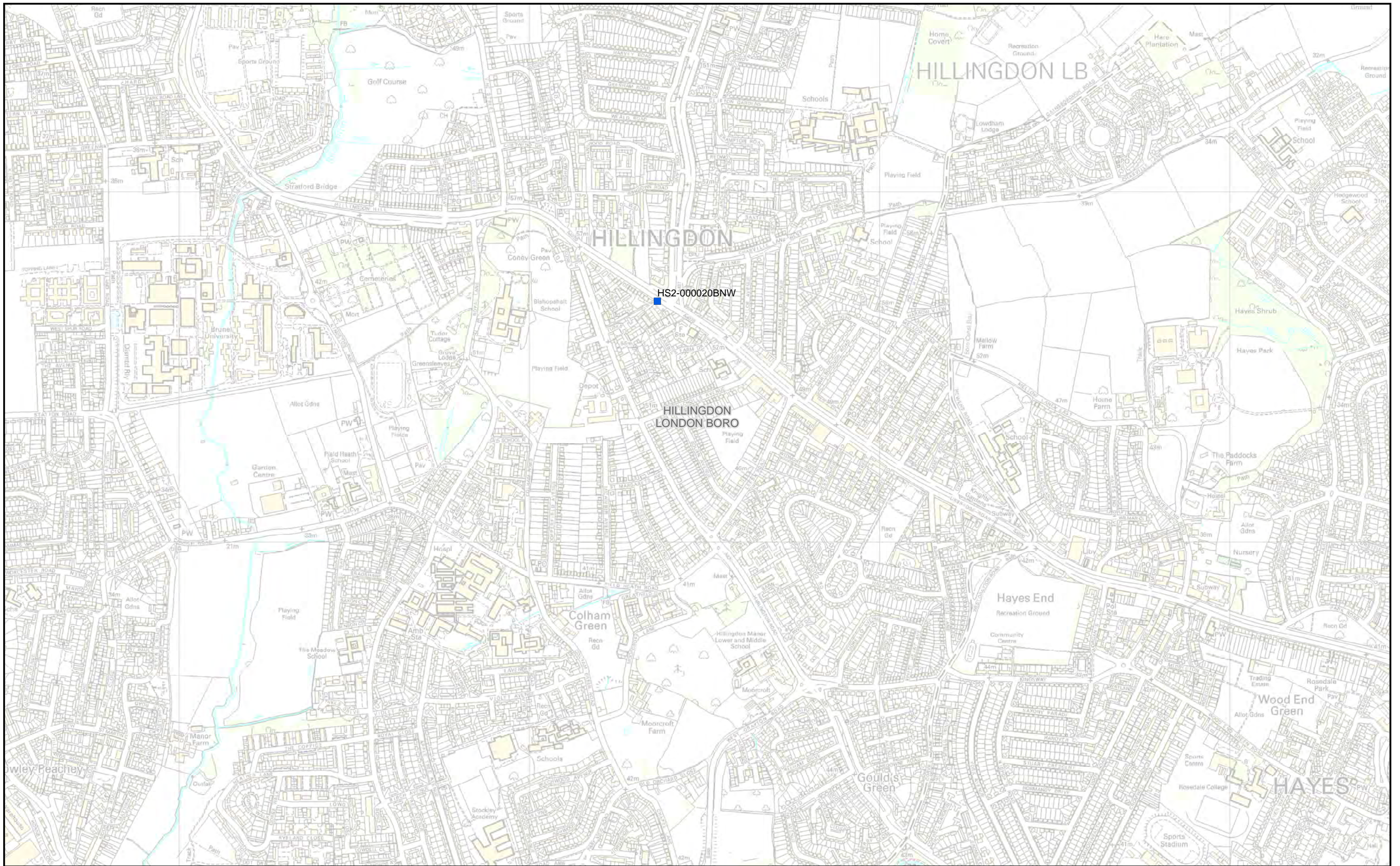
Figure Name
**Worksites and Monitoring locations in LBH
 (sheet 3)**




London Borough of Hillingdon

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- Legend**
-  Route in tunnel
 -  Route on surface
 -  Diffusion tube monitoring location


| |
|---|
| Figure Number |
| Figure Name Worksites and Monitoring locations in LBH (sheet 4) |
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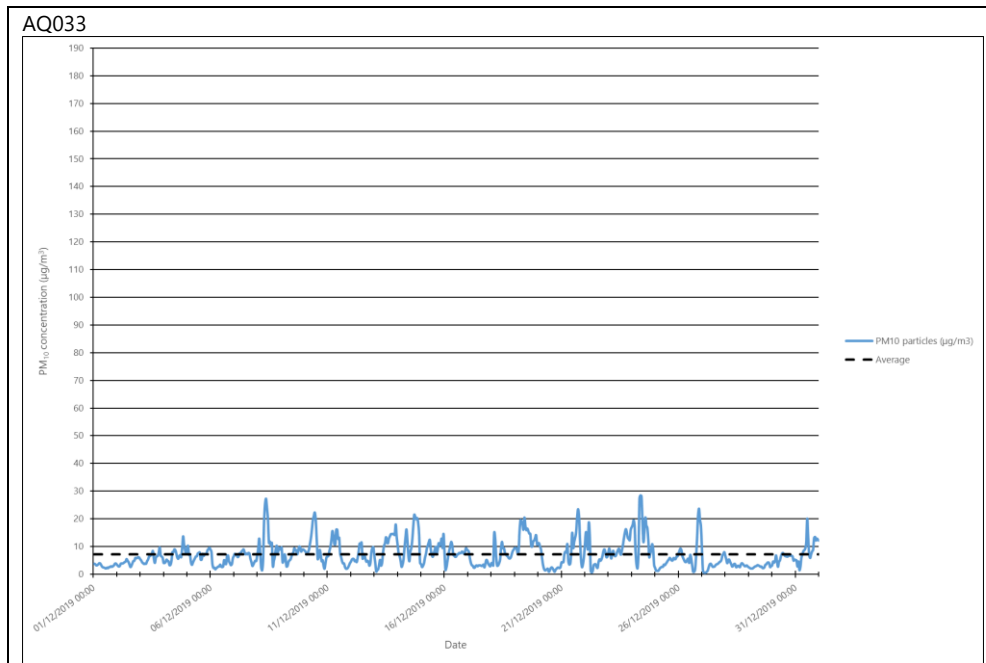
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Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and December 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 (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 (%) |
|--------------------|-------------------|--------------------------------|---------------------------|--------------------------------------|---|---|--|--|---|------------------|
| AQ033 | 507045, 187352 | Merck Sharp Dohme, Building 24 | H | Yes | Y | 7.2 | 0.5 | 28.5 | 0 | 100.0 |

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



Appendix C – Air Quality Monitoring Results

Table 2: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2019 (µg/m³)

| Monitoring Site ID | Location description | Coordinates (X, Y) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Mean ¹ |
|--------------------|---|--------------------|-----|---------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|
| HS2-000020BNT | Lamp post on Pembroke Road | 509678, 187214 | 34 | 41 | 28 | 26 | 20 | 23 | 17 | 22 | 25 | 27 | 37 | | 27 |
| HS2-000020BNU | Cowley Road sign post at junction with Hillingdon Road | 505492, 183926 | 47 | 49 | 41 | 38 | 39 | 43 | 36 | 46 | 46 | 46 | 48 | | 43 |
| HS2-000020BNV | High Street sign post at junction with Pembroke Road | 509439, 187117 | 46 | 47 | 38 | 45 | 27 | 39 | 34 | 35 | 37 | 40 | 49 | | 40 |
| HS2-000020BNW | Signpost on A4020 Uxbridge Road at junction with Long Lane | 507365, 182687 | 54 | 47 | 41 | 50 | 38 | 41 | 36 | 32 | 42 | 42 | 56 | | 44 |
| HS2-000020BPK | Lamp post in crescent off Swakeleys Road | 506542, 186037 | 45 | 48 | 39 | 31 | 33 | 28 | 34 | 33 | 35 | 34 | 47 | | 37 |
| HS2-000020BPL | Warren Road sign post on corner of Swakeleys Road and Warren Road | 506240, 185660 | 43 | 61 | Tube missing | 30 | 37 | 36 | 38 | 40 | 38 | 35 | 40 | | 40 |
| HS2-000020BPN | Lamp post on B467 | 506767, 186224 | 39 | No data | 36 | 31 | 32 | 28 | 26 | 27 | 31 | 34 | 40 | | 32 |
| HS2-000020BQH | Lamp post on High Road Ickenham | 508451, 186879 | 51 | 49 | 42 | 38 | 35 | 31 | 35 | 36 | 38 | 43 | 44 | | 40 |

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 |
|--------------------|--|--------------------|-----|-----|-----|-----|-----|-----|---------------|---------------|-----|-----|-----|-----|-------------------|
| HS2-000020BQN | Lamp post on Park Road | 506176, 185444 | 45 | 54 | 54 | 52 | 40 | 48 | 41 | 37 | 47 | 49 | 55 | | 48 |
| HS2-000020BQP | Sign post on Long Lane | 507614, 184663 | 43 | 47 | 43 | 48 | 38 | 45 | 38 | 34 | 44 | 44 | 46 | | 43 |
| HS2-000020BP8 | Triplicate site at South Ruislip roadside automatic monitoring station | 510858, 184916 | 46 | 44 | 34 | 36 | 29 | 37 | Tubes missing | Tubes missing | 39 | 35 | 47 | | 39 |