AtkinsRéalis

Air quality (dust, odour and vapour) monitoring strategy

WS4_100116882_001_02

15 September 2025 (Rev 3.0)

BROMLEY BY BOW GASWORKS

AtkinsRéalis - Baseline / Référence

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1. Introduction

AtkinsRéalis has been commissioned to provide environmental consultancy support to St William Homes LLP (St William) for the redevelopment of Bromley by Bow former gasholder site in the London Borough of Newham. This support is provided in relation to the discharge of the planning conditions.

Planning condition C15 “Dust Risk Assessment” requires the developer to, prior to the commencement of each phase, submit a dust monitoring strategy and that works be undertaken in accordance with the approved monitoring strategy, to minimise dust and emissions from construction and demolition.

This monitoring strategy considers the Phase 1a and 2a works, the boundary of which is shown in Figure A-1. These phases will involve gasholder decommissioning, demolition and enabling works (including remediation and piling), and constructing basements in the void demolition of the below ground gasholder structures, including crown, truss and bell tank wall (lifts) at Gasholder No. 1, and No. 2. The work includes construction of two new residential blocks (B3 and B4) and building G1 within the confines of the gasholder masonry tank wall. To facilitate construction, demolition of the cottages in the north east will be progressed and the area will be subsequently used as a construction compound while a construction haul road is also proposed.

If not appropriately controlled, these activities have the potential to generate emissions of dust, but also of vapour and odours which could impact upon the occupants of adjacent residential and commercial properties. Therefore, while planning condition C15 requires a strategy for monitoring of dust, a combined strategy for monitoring of dust, odour and vapours (specifically, volatile organic compounds (VOCs)), has been prepared to support the control measures set out in the Construction Environmental Management & Logistics Plan (CEMLP) and ensure they are being applied effectively.

The proposed strategy, which has been prepared in line with established best practice and health-based guidelines and action thresholds, includes regular site inspections, visual observations of dust deposition, “sniff testing” for odours, and routine monitoring of airborne particulates and vapours. This will be carried out by trained and competent individuals, and where appropriate, accredited and experienced analytical laboratories. Boundary monitoring will include real-time continuous monitoring of particulate matter and VOCs, with passive air sampling for quantification of individual VOCs (including benzene and naphthalene).

This information will be reviewed and compared to health standards on a regular basis to assist the contractor and developer in determining whether management techniques are effective at controlling site operations. A tiered alert system with action thresholds will help the contractor to identify whether additional controls are required, and where that is necessary to ensure that public health and amenity is not put at risk.

The type and frequency of monitoring to be carried out on and/or work areas may need to change over time as the site and works evolve. The recommended monitoring will be kept under review as new information becomes available and results are received, to ensure it remains relevant and proportionate.

2. Background

2.1 Site location

The proposed development (Site) is located to the north of Twelvetrees Crescent, Bromley by Bow, E3 3JQ in the London Borough of Newham. The National Grid reference for the approximate centre of the site is E538553, N182574 and a site location plan is included as Figure 2-1.

The site is bounded to the north by the above ground London Underground Limited (LUL) District, Hammersmith and City lines and the London, Tilbury and Southend Railway, beyond which is the Channelsea River and Three Mills Studio. The site is bound to the east by commercial properties and the Berkeley Group Twelve Trees Park Development, to the south by Twelvetrees Crescent with commercial properties beyond including Bywaters and Amazon UK Services Limited, and to the west by Bow Creek and the Lee Navigation channel.



Figure 2-1 – Aerial photograph of the Site showing planning red line boundary (all phases)

2.2 Site description

The Site covers approximately 9.4 hectares in area and is comprised of the following three areas:

1. Wembley Cottages in the north eastern triangular section shown in red in Figure 2-2 (proposed for demolition);
2. Cadent Gas Limited (Cadent) area to the south west, beyond the red line boundary and shown in yellow in Figure 2-2; includes a Pressure Reduction Station (PRS) which is proposed to be rebuilt by Cadent while site works are in progress at the site; and
3. St William owned area, the unshaded area within the red line boundary in Figure 2-2, which comprises the remainder of the site and includes the nine former Bromley by Bow gasholders (numbered in Figure 2-3). Of these, Gasholder No. 5 was damaged after a wartime bomb strike and subsequently decommissioned and

remediated by Erith in 2011 & 2012, while Gasholder No. 3, previously used as a primary flash distillate (PFD) tank, remains as a water-filled void.



Figure 2-2 – Site Plan showing area of demolition (red) and PRS (yellow)



Figure 2-3 – Gasholder locations and numbering

2.3 Proposed development

The Proposed Development includes the construction of 13 mixed residential and commercial use high-rise buildings. Of these 13 buildings, seven will be constructed within the frameworks of Gasholders No. 1 to 9, excluding Gasholder 3 (water filled void) and Gasholder 5 (buried, decommissioned and remediated).

Areas of soft and hard landscaping will surround the new structures, and a shallow pond will be located in the footprint of Gasholder 3. The construction will comprise circa 2,200 residential dwellings and 9500 m^2 of floor space dedicated to non-residential purposes, up to 33 stories in height. A Phasing Plan for the Site is presented in Appendix A.

This Air Quality (Dust, Odour and Vapour) Monitoring Strategy is focused on Phases 1a & 2a of the Proposed Development, concerning the areas shown in yellow in Figure 2-4. At the time of writing, the proposed start date for the Phase 1a & 2a enabling works is 12 January 2026.



Figure 2-4 – Areas of the Site included in Phase 1a & 2a works

2.4 Pollution sources

To ensure the proposed approach for monitoring dust (airborne particulate matter), odour and vapours (VOCs) is suitably robust, the potential sources of pollutants and the main ways in which they could be dispersed in the atmosphere beyond the site boundary have been reviewed. This section sets out the main findings of the review, along with consideration of other factors that may influence how potential effects are mitigated and how monitoring data are interpreted.

A risk assessment approach has been adopted which considers the potential for:

- a source i.e. contamination present in the ground;
- a pathway i.e. how people may be exposed to the contamination (in this case movement of air offsite); and
- a receptor i.e. sensitive people or properties within a relevant distance of the site.

The proposed monitoring survey will focus on the locations where there is a higher risk to human health and/or local amenity, where there is a viable pathway between the source and the receptor. Once released into the atmosphere, the pathway for exposure to pollution is primarily dependent on wind direction and, in the case of dust, particle size. Emissions to air will disperse and dilute through vertical and horizontal mixing, and the distance and orientation between source and receptor. This information helps to understand the degree of exposure risk at a particular location.

The information provided in documentation produced for the planning application for the Proposed Development and specifically that included within the Environmental Statement has been referred to in preparing this plan:

- Chapter 8: Air quality;
- Chapter 10: Ground Conditions and Contamination (and appendices);
- CGL, Former Gasworks, Bromley By Bow Remedial Options Appraisal and Cost Benefit Analysis; and
- CGL, Former Gasworks, Bromley By Bow Geoenvironmental Interpretative Report.

The key sources of ground contamination of relevance to this strategy are potential sources of vapours and odours because they may contain “hydrocarbon impacted materials”. These hydrocarbons are generally referred to as volatile organic compounds (VOCs) which can volatilise (become vapours) even at low ambient temperatures. Some of these VOCs, such as naphthalene, xylene and toluene, may have an associated odour at low concentrations, if exposed to air during demolition, remediation and enabling works. Other VOCs, such as benzene, are not odorous at low concentrations but have the potential to affect human health. Some VOCs, such as naphthalene, are also known as polycyclic aromatic hydrocarbons (PAH) due to their chemical structure. PAHs are associated with tar, ash and clinker from the gas manufacturing process and are commonly found in soils on brownfield sites.

In light of the odour detection thresholds and noting the results from soil sampling for site investigation works (see below), naphthalene (the most volatile PAH) may be detectable to sensitive members of the local population; this has a distinct tarry/moth ball odour. The very stringent guideline set in permitting guidance for average exposure over the course of a year means that mitigation in response to detection of this odour at the boundary will be key to the success of the monitoring protocol.

2.4.1 Ground investigation

Work completed as part of the Environmental Statement indicated the presence of hydrocarbon contamination across the Site due to its historical uses. This includes elevated concentrations of the VOCs benzene, toluene, ethylbenzene and xylene (BTEX). Hydrocarbon odours and staining were identified in various locations across the

Site within the Made Ground, Alluvium, River Terrace Deposits and London Clay. Evidence of hydrocarbon odours were also were also noted within groundwater of two boreholes within former Gasholder No. 5.

Figure 2-5 and Figure 2-6 show the locations where there were exceedances of Generic Assessment Criteria for polycyclic aromatic hydrocarbons (PAHs (including naphthalene, Benzo(a)anthracene)) in Made Ground and Alluvium.

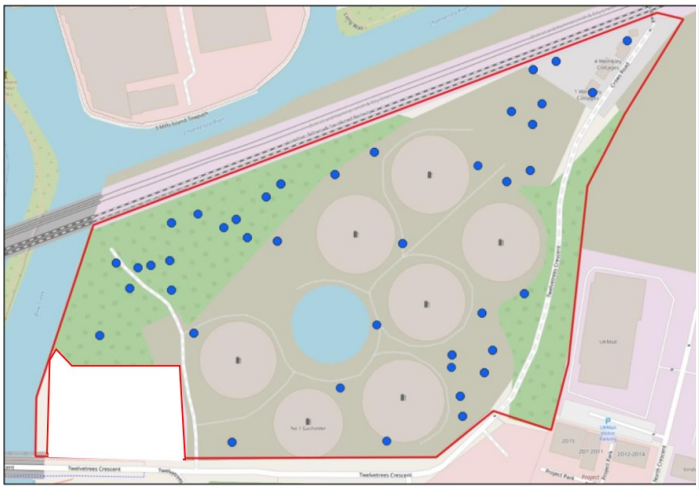


Figure 2-5 – Exceedances in Made Ground For PAHs

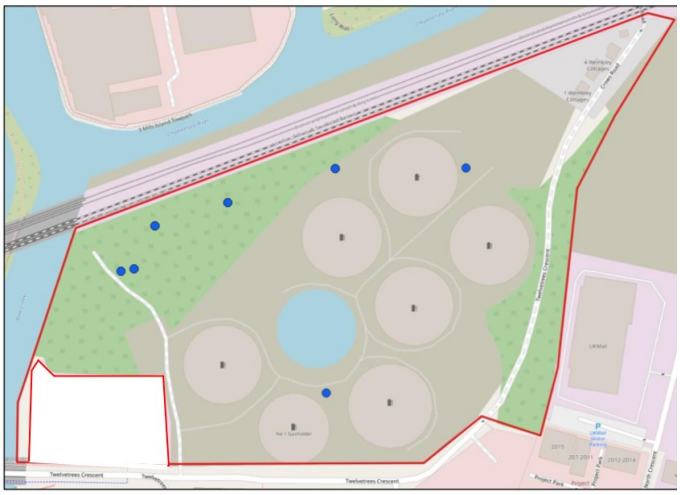


Figure 2-6 – Exceedances in Alluvium for PAHs

2.4.2 Remediation and enabling works including gasholder decommissioning

The remediation and enabling works activities for Phase 1a & 2a will involve vegetation clearance, physical excavation, demolition of gasholder below ground structures and complex materials management to facilitate development levels across the Site. If uncontrolled, these activities could be a source of dust and airborne particulate matter, as well as vapour and odours associated with the disturbance and excavation of hydrocarbon containing material described above.

The methodology that will be applied for controlling and mitigating the potential emissions is contained within the CEMLP (under review with the Local Authority) while the means of monitoring potential emissions is the focus of this document.

The potential sources of emissions during remediation works include:

- Gasholder decommissioning (including gasholder dewatering, desludging and environmental cleaning works).
- Removal of areas of gross contamination (and backfill with material suitable for use based on agreed criteria).
- Remediation of shallow soils to address gross contamination. This could include in situ remediation, excavation, ex-situ remediation (such as bioremediation) and re-use, or excavation and offsite disposal.
- Site strip to formation levels, facilitating the removal of obstructions, conduits and preferential pathways for contaminant migration; requirement for imported topsoil and subsoils, or hardstanding capping layers.
- Temporary storage of material on site prior to offsite transport.
- Vehicle movements associated with the import of clean material and off-site transport of contaminated material may generate dust when travelling over unmade ground or track out of soil, as well as odours.

2.4.3 Construction works

The dust sources relevant to Phase 1a & 2a are physical excavation, demolition of structures, movement and storage of materials on site and the construction works for residential blocks B3 and B4. Vehicle movements associated with the import and off-site transport of construction material may generate dust if vehicles travel over unmade ground or track out soil onto the local road network.

A dust risk assessment was included in the Environmental Statement (Chapter 8 Air Quality) and concluded that the overall risk of fugitive dust from the Site (considered as a whole) was a maximum of 'high', with likely 'large' secondary, local, temporary effects in the absence of mitigation. The significance of effects for human health and ecosystems was assessed to be "minor adverse".

Appropriate mitigation measures were recommended for inclusion within the CEMLP and these will be applied by the contractor to avoid potential negative air quality impacts.

2.4.4 Exposure pathways

To understand the potential for offsite locations to be affected by dust, vapours and odour during the Phase 1a & 2a works, and to determine the most appropriate locations for monitoring equipment, an analysis of wind direction and frequency has been undertaken using hourly meteorological data from the London City Airport meteorological station. The surrounding area has been assigned into segments representing the areas winds could in theory more frequently carry emissions from within the site boundary to sensitive offsite locations.

The segments are colour coded in Figure 2-7 to indicate those wind directions that have been most frequent over a recent five year period (2019-2023), and therefore the areas downwind of Phase 1a & 2a that could be more at risk of potential dust, odour and VOC emissions sources if they are not effectively controlled. The analysis was centred between Gasholder No.1 and No.2, as these are likely to be the main source of odour and VOCs, while this is also centrally positioned between the other areas of Phase 1a & 2a remediation and construction activities, which also present a risk of dust emissions. Distance buffers on the figure extend to 200 m to indicate the theoretical area within which, if unmitigated, odours may potentially be experienced off site.

The figure shows:

- a single purple segment, where winds are likely to blow most frequently from the site works towards offsite receptors; this includes a commercial area and the Berkeley Homes development (under construction, partially occupied) to the east and north east of the site;
- blue segments, where winds are likely to blow from the site towards offsite receptors at a moderate frequency; these include commercial areas to the north east and south east of the site, as well as residential and commercial areas to the west and south west; and
- grey segments, where winds are least likely to blow from the site towards environmental receptors; these include commercial areas to the north and south.

It is important to note the figure is intended to enable an evaluation of the potential dispersion routes for dust, odour and vapour emissions beyond the Site boundary for risk assessment and survey design purposes. It makes no adjustment for the effectiveness of control measures that will be implemented to avoid, reduce and mitigate potential emission sources. It furthermore does not provide an indication of how far airborne particulates, odour and vapours may disperse after taking account of the measures set out in the CEMLP.

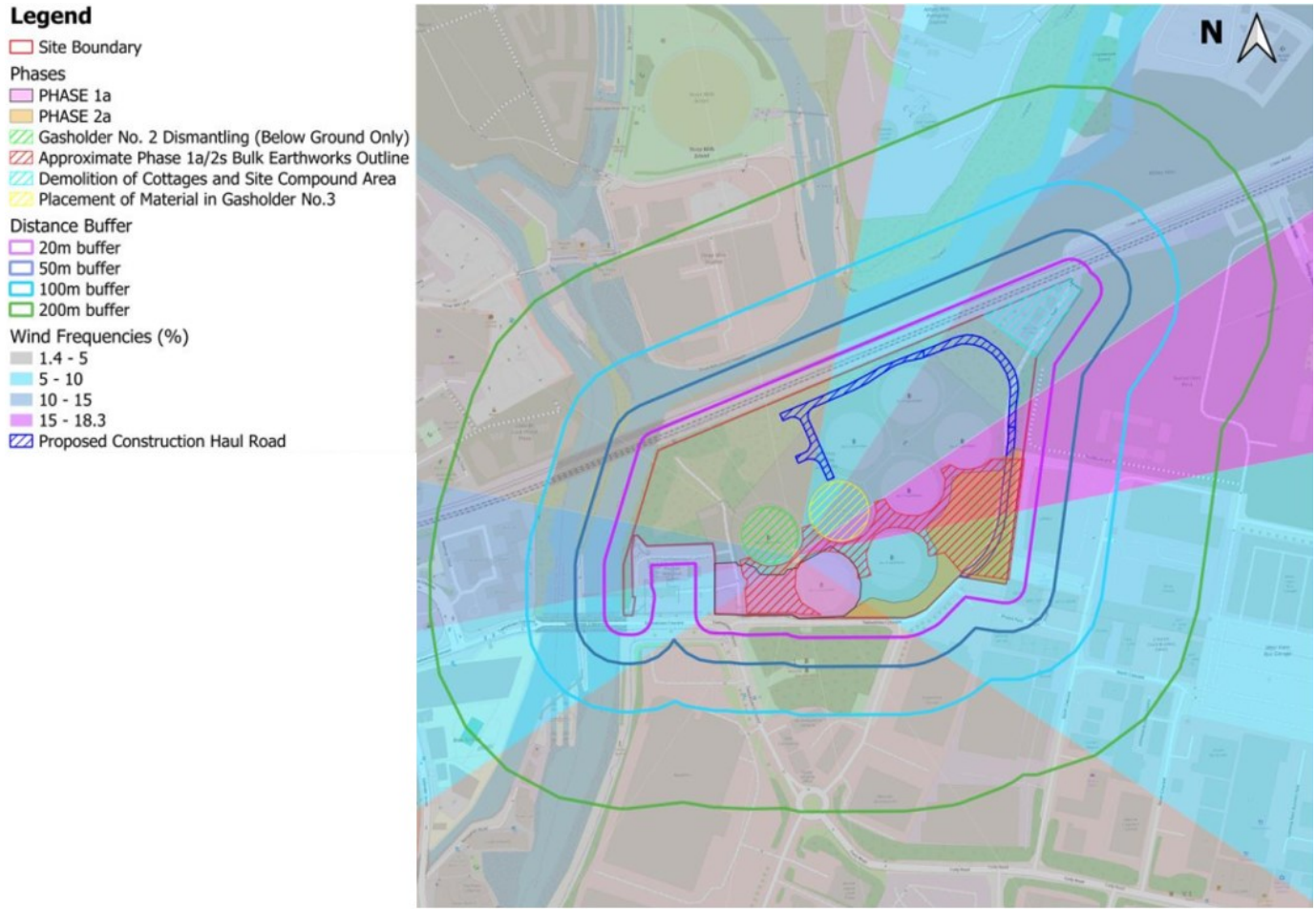


Figure 2-7 – Frequency of winds blowing from Phase 1a & 2a works towards downwind areas

2.4.5 Relevant receptors

The locations of receptors which may be potentially sensitive to air emissions are shown in Figure 2-8. The closest high sensitivity receptors within 200 m of the Site boundary are:

- residential properties within the new Twelve Trees Park development (under construction and partially occupied), the closest boundary of which is just over 20 m to the east of the Site; and
- residential properties on Block Malting Close, 95 m to the west of the Site.

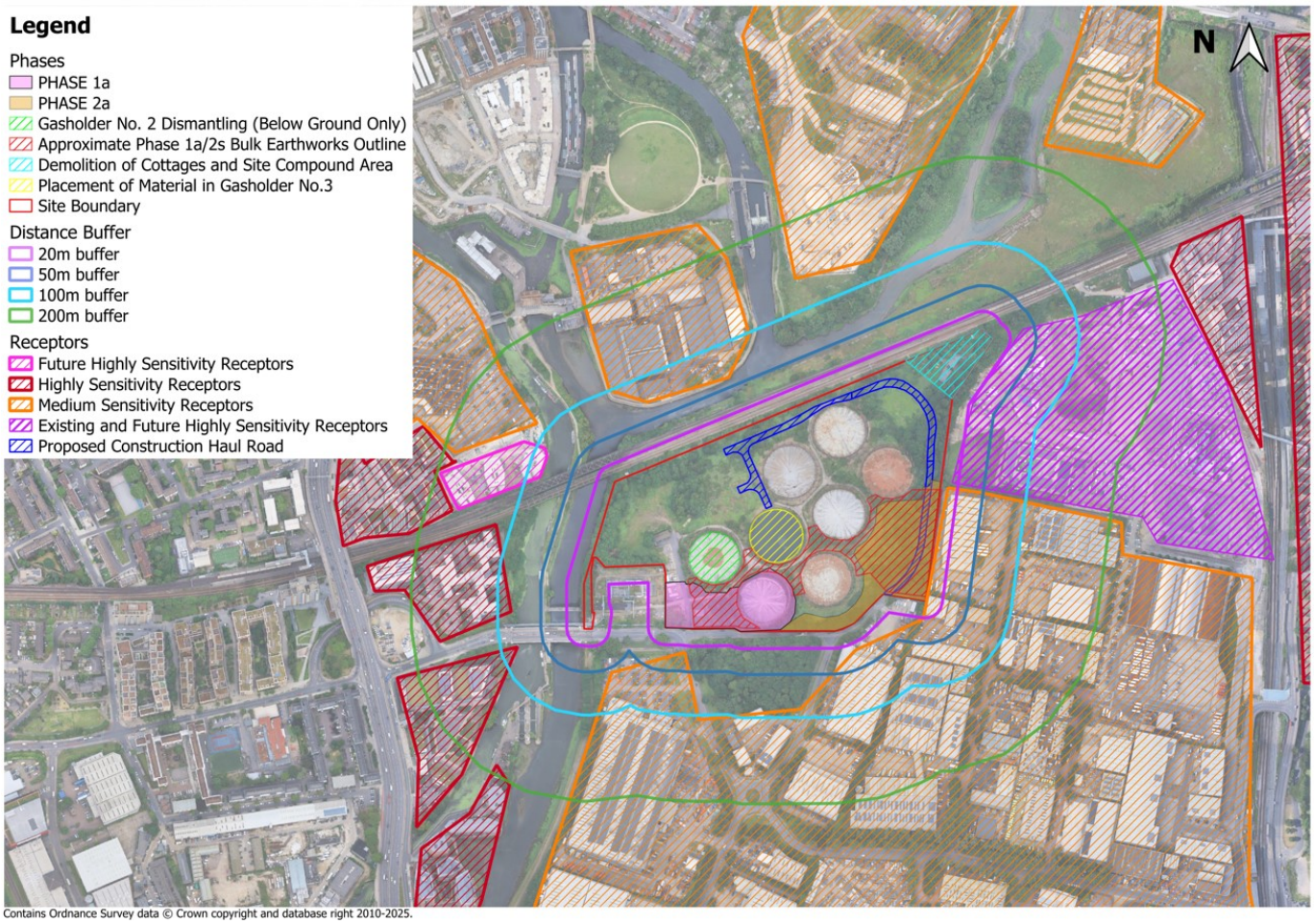


Figure 2-8 – Receptors within 200 m of the Site Boundary

3. Monitoring plan

3.1 Guidance

The Institute of Air Quality Management (IAQM) has recently published a good practice guide for air quality monitoring on brownfield sites (undergoing member consultation as of July 2025), which has been the primary guide in producing this Phase 1a & 2a monitoring plan. The following references were consulted in the drafting of the guidance:

- Department for Environment, Food and Rural Affairs (2008) Diffusion Tubes for Ambient NO2 Monitoring: Practical Guidance
- Department for Environment, Food and Rural Affairs (2015) Statutory nuisances: how councils deal with complaints.
- Department for Environment, Food and Rural Affairs (2022) Local Air Quality Management Technical Guidance (TG22)
- Environment Agency (2007) Review of Odour Character and Thresholds. Science Report: SC030170/SR2.
- Environment Agency (2020) Land contamination risk management
- Environment Agency and Department for Environment, Food and Rural Affairs (2016) Air emissions risk assessment for your environmental permit.
- Health and Safety Executive (no date) Workplace exposure limits.
- Institute of Air Quality Management (2018) Guidance on the Assessment of Odour for Planning.
- Institute of Air Quality Management (2018) Guidance on Monitoring in the Vicinity of Demolition and Construction Sites.
- Public Health England (2019) (now UK Health Security Agency (UKHSA)) Air quality guidelines for volatile organic compounds in indoor spaces.

3.2 Monitoring techniques

Air pollutants are measured as concentrations in the air averaged over a period of time to be compared to health-based standards or thresholds. Some techniques can provide information on multiple pollutants at very low levels, others give information on groups of pollutants at higher levels. Some units are large and complex (fixed position), and require an electricity supply to operate, others are more robust battery powered (mobile) units that can be carried around.

Air quality monitoring can be undertaken continuously, with readings logged every few minutes, to give detailed information at a fixed location; intermittently, by taking “spot” readings in different locations using more flexible, handheld equipment; passively, by leaving equipment in place then collecting it after a period of time for analysis; and actively, by drawing a known volume of air through a sampler.

By applying a range of these techniques at Bromley by Bow, this will give information to the Contractor both in “real time” for a rapid response, and longer-term averages will provide information on the risk from exposure to individual compounds.

The Environment Agency’s monitoring certification scheme (MCERTS) provides guidelines on the standards for monitoring emissions. Continuous analysers can be EU reference methods, equivalent reference methods, or indicative MCERTS. Indicative dust monitors are proposed to take measurements of airborne particulate matter on

a quantitative basis. These units play a role in environmental regulation for the analysis of particulate pollution trends, source identification studies based on pollution roses, and other situations where an indicative result is acceptable (i.e. where the intention is not to determine compliance with legally binding standards).

Simpler techniques, such as sniff testing for odours or visual observations for dust, do not involve monitoring equipment at all but can be performed by an assessor who ideally, for odour, has been acuity tested against a standard and given training to remove bias. This kind of surveying provides invaluable information to a site operator about what may be experienced by the local community. For odour, this is important because some pollutants such as naphthalene may not be detectable by instrumentation at very low concentrations and, while they may not have direct health impacts at that level, can still cause annoyance as they have a very low odour threshold.

As there are known limitations and uncertainties associated with each technique, by layering and combining them at the right time, and in the right place, and comparing the data with a range of thresholds, a well-designed survey as is proposed for Phase 1a & 2a will serve the dual purpose of protecting human health and avoiding nuisance. Gathering community feedback will further enhance the understanding of how well the site is performing, which can be particularly helpful when there are existing potential odour sources, such as the Cadent PRS and the Bywaters waste recycling facility.

3.3 Review of existing data

3.3.1 Local authority monitoring

3.3.1.1 Particulate matter

Continuous monitoring of fine particulate matter (PM_{10} and $PM_{2.5}$) is undertaken at five sites in the London Borough of Newham. The closest continuous monitor is 1.2 km to the north west of the Site at location NM2. In the last five (2019-2023) years, the concentrations for PM_{10} and $PM_{2.5}$ have been below the relevant national air quality objectives of 40 µg/m^3 and 20 µg/m^3 respectively, while in 2022 and 2023 $PM_{2.5}$ also met the target value of 10 µg/m^3 (to be achieved by 2040 in England).

Table 3-1 – Continuous monitoring results for PM_{10} and $PM_{2.5}$ at NM2

Pollutant	2019	2020	2021	2022	2023
PM_{10}	18(3)	18(6)	17(0)	16(4)	14(0)
$PM_{2.5}$	-	11	13	10	7

Numbers in brackets show number of days where the daily mean exceeded 50 µg/m^3

3.3.2 Developer monitoring

3.3.2.1 Odour

In 2021, DustScanAQ undertook baseline odour survey sniff tests at eight receptor locations in advance of ground investigation works (see Appendix B). During the baseline tests, no odours likely to be associated with gasworks remediation were detected (i.e. no petrol-like, strong chemical, tarry or industrial odours). Various ambient odours were intermittently detected, such as those associated with vehicle traffic, vegetation and odours from the adjacent Channelsea River.

Odour bag sampling was also undertaken during ground investigations (trial pit window sampling) which identified gasworks type odours. While the total odour was over 100 ou/m^3 in the single trial pit within the south east corner of the site, naphthalene and benzene were not detected in the sample. Details are found in Appendix B.

3.4 Proposed strategy

3.4.1 Locations and equipment

The proposed approach to monitoring at Bromley by Bow for Phase 1a & 2a has been based on a review of existing information, ground investigations and monitoring surveys undertaken at the Site. In summary, a combination of continuous, passive and subjective testing is proposed (further details are provided in Section 3.4.3):

- Continuous monitoring (CMS) for particulate matter (the fine component of dust) and VOCs at two boundary locations, nominally proposed on the western and eastern boundaries of the site (up- and down- of the prevailing south westerly wind)[1];
- Passive Tenax monitoring for individual VOCs at five boundary locations (changeovers at fortnightly intervals) to provide concentrations of individual VOCs e.g. BTEX, naphthalene[2];
- Visual observations of dust around the site boundary (fortnightly for baseline, daily during site works) and the site access road;
- Subjective sniff testing for odour around the site boundary (fortnightly for baseline, daily during site works), at the locations of Tenax tubes[3]; and
- Photo-Ionisation Detector (PID) handheld readings (daily during site works) at the same locations as Tenax tubes.

It is anticipated that following a period of baseline monitoring (see Section 3.4.2), data collection during the remediation phase will comprise all of the above, while once the construction phase is underway, monitoring will focus on dust and particulate matter, commensurate with the pollutants expected during each phase.

The proposed locations and type of equipment for Phase 1a & 2a are set out in Figure 3-1 with further detail in provided in Table 3-2.

These proposed locations will be confirmed following a site reconnaissance visit, due to the need to verify the availability of power, safe access, suitable street furniture / fencing to which to attach equipment. The fixed boundary monitoring units will run off 110v power supply once available, until then it is proposed these run off solar panels with a backup battery unit.

The selected instruments for continuous monitoring will be indicative MCERTS for PM_{10} and will also provide measurements of $PM_{2.5}$, at a frequency of at least every 5 minutes. The equipment provider will maintain a website for access to real-time information by approved users (e.g. Site Supervisor, Environmental Manager) and enable automated exceedances of alert thresholds. Monitoring equipment will be mounted on suitable site fencing or equivalent safe structures. The instruments' air intakes will be positioned above any site hoarding and away from

[1] Baseline monitoring will identify any construction dust from the Berkeley Homes construction site to the north east of the development.
[2] A proportionate quantitative VOC analysis, i.e. focusing on BTEX and naphthalene, will be undertaken at the site boundaries to reflect this stage prior to decommissioning/remediation.
[3] Note, the number and location of sniff testing sites is an initial suggestion. They are indicative and can remain flexible throughout the works.

large structures, to allow adequate airflow around the intakes whilst keeping them away as far as practicable from external interference (e.g. diesel generators). The equipment will be inspected at monthly intervals for signs of damage or malfunction. Annual maintenance and calibration of the equipment shall be undertaken in accordance with manufacturer's recommendations.

Passive dust deposition and/or dust flux monitoring may be considered as an additional measure to visual logs, if dust plumes and/or deposition are regularly observed offsite and/or complaints are frequently upheld as related to a site activity. This is not currently envisaged as being required for the lower dust risk activities for Phase 1a & 2a and the absence of existing receptors within 50 metres of works. The need for monitoring will be kept under review.

3.4.2 Baseline monitoring

Baseline monitoring is important as it provides the contractor with information on typical background pollutant concentration ranges and odour/dust conditions in the absence of the works. It is used to set relevant benchmarks against which to compare future monitoring data and to refine Site Action Levels (SAL) i.e. concentrations / thresholds at which alerts are sent to the contractor allowing action to be taken to investigate and ameliorate the source of pollution.

Baseline odour monitoring (sniff testing) was undertaken in 2021 to inform the Environmental Statement (see Appendix B).

A period of two months' continuous monitoring of particulate matter (PM_{10} and $PM_{2.5}$) and total VOCs is proposed. This is aligned to IAQM guidance[4] which states that *"baseline monitoring is only likely to be required where there is a specific need to determine site specific Site Action Levels. In most situations, baseline monitoring may not be required, e.g. in some urban areas where there is a large existing body of monitoring data"*.

Two months of baseline monitoring at the Site will provide a reasonable basis for reviewing and potentially adjusting the monitoring strategy and SALs prior to commencement of works, if required. The IAQM's recommended Site Action Level (SAL) for PM_{10} (190 µg/m^3 as a one hour mean) is at this stage considered suitable for application without adjustment, given the Site surroundings in an urban area and the Local Authority monitoring site for PM_{10} and $PM_{2.5}$ within 1.2 km.

For odour and vapours, two months of continuous monitoring of VOCs by a PID instrument, supplemented with passive Tenax monitoring for identification of individual VOCs, and sniff testing at fortnightly intervals.

Further details of the monitoring techniques are provided in Table 3-2, which also describes the frequency of routine monitoring during Phase 1a & 2a.

If upon completion of the baseline survey and review of data, adjustments need to be made to proposed locations and SALs, this will be communicated to the local authority.

3.4.3 Phase 1a & 2a monitoring

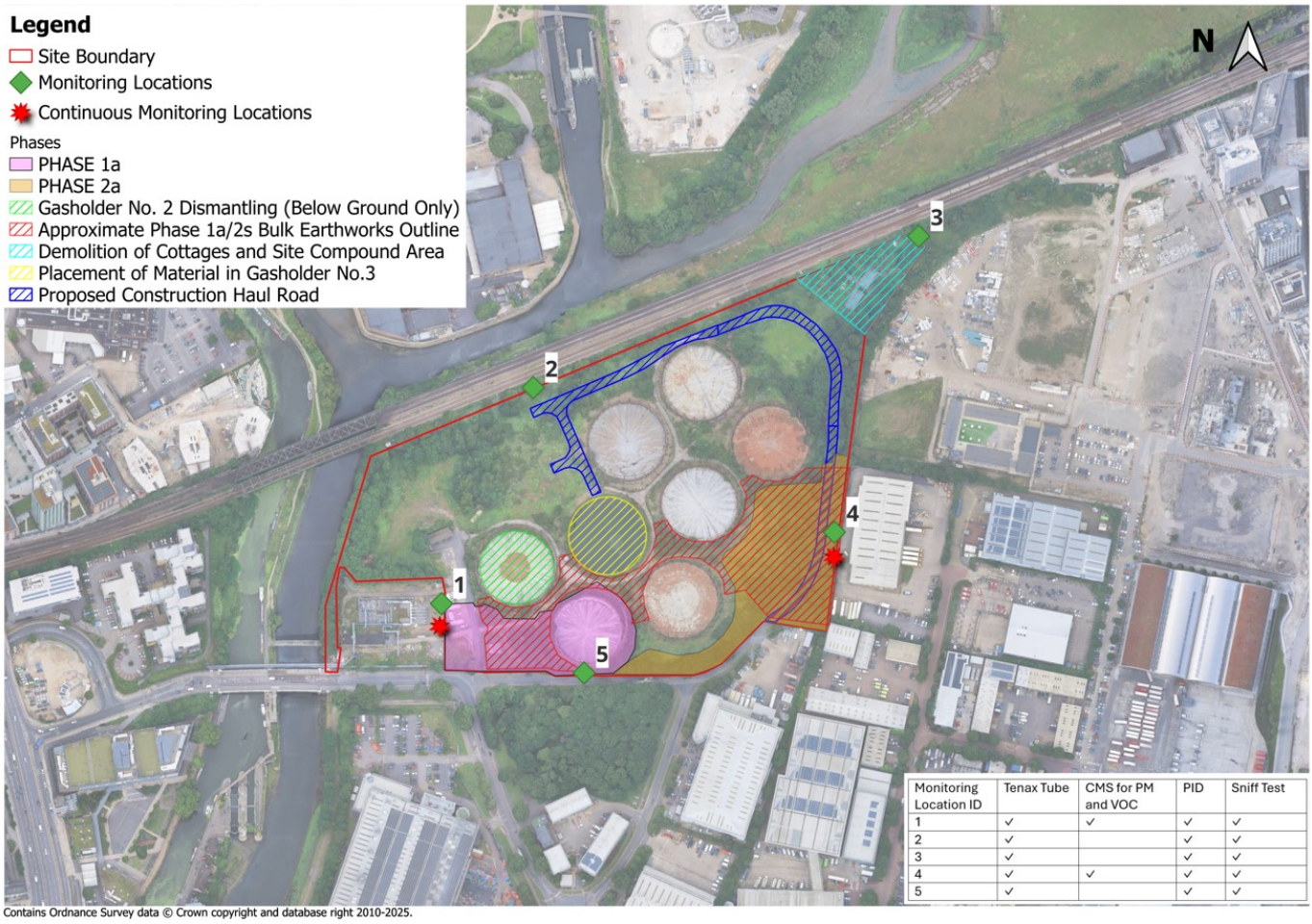
Monitoring during Phase 1a & 2a will be carried out in accordance with the techniques and frequency described in Table 3-2. This sets out the proposed monitoring regime that will be routinely employed by the contractor for the observation and tracking of dust, odour and vapours and the quantitative analysis and assessment against health and amenity-based thresholds. These monitoring requirements will be incorporated into the contractors' operational

[4] IAQM (2018) Guidance on Monitoring in the vicinity of Demolition and Construction Sites. October 2018 (version 1.1). Available online at: https://iaqm.co.uk/text/guidance/guidance_monitoring_dust_2018.pdf. Accessed July 2025.

schedules and documentation will be maintained to demonstrate the measures are applied in accordance with the strategy.

A site-based member of staff will be nominated to provide oversight of the monitoring and make observations of working methods, meteorological conditions, mitigation applied etc. Templates for odour and dust reporting are provided in Appendix C.

Data collection during the remediation phase will comprise all methods described, while once the construction phase is underway, monitoring will focus on dust and particulate matter, commensurate with the pollutants expected during each phase.



Monitoring Location ID	Tenax Tube	CMS for PM and VOC	PID	Sniff Test
1	✓	✓	✓	✓
2	✓		✓	✓
3	✓		✓	✓
4	✓	✓	✓	✓
5	✓		✓	✓

Figure 3-1 – Proposed Phase 1a & 2a Air Quality Monitoring Locations

Table 3-2 – Routine monitoring regime for air quality (dust, odour and vapours)

Determinant	Monitoring Activity	Frequency	Detail	Evidence
All	Management Meetings	Weekly	The contractor site management team will hold weekly meetings to discuss current and planned site operations, meteorological forecast, dust/odour/vapour monitoring including previous week's results, planned mitigation, any required community engagement and feedback raised, and potential or ongoing air quality issues.	Minutes of meetings documenting actions and outcomes
All	Site Inspections	Daily	A daily site inspection by a member of the site management team will be undertaken to make sure that the site works are undertaken in line with the monitoring and mitigation measures set out in this plan.	Daily site log
All	Meteorological conditions	Daily	Weather forecasts, including wind direction, wind speed, rainfall, temperature data will be used to inform site activity planning and interpretation of data. Historical data from London City Airport Meteorological Office station show long-term average wind conditions and will be used by the contractor to plan activities in advance. Onsite meteorological measurements will then be referred to during works and retrospectively when assessing the source of pollutant emissions. An anemometer (wind direction/speed gauge) will be installed with a continuous monitor, ideally that downwind of the prevailing south westerly wind. The gauge will be visible to those working from within the site, for example so that the construction site manager can observe the wind direction on a regular basis. Online sources such as the Defra Air Quality website or The Met Office websites should also be consulted for pollution episodes and forecast winds, respectively, and additional mitigation planned in should the predicted conditions indicate potential adverse effects.	Daily site log
Dust	Visual dust	Daily	A daily inspection around the full external perimeter of the site and neighbouring roads for visual signs of dust plumes and/or deposition and to monitor compliance with the recommended dust mitigation. The observer will assess the potential for dust generated by site activities, such as excavation, stockpiling and vehicle movements, to be carried offsite either via a plume or trackout onto the local road network. They will evaluate the effectiveness	Daily site logs to include completed visual inspection form in Appendix C.

Determinant	Monitoring Activity	Frequency	Detail	Evidence
			of on-site dust management by inspecting surfaces on and off site (e.g. on general surfaces, cars, railings, street furniture and windowsills). and consider the need for improvement measures or remedial action. Frequency to be increased during works with higher potential for dust generation.	
Odour	Sniff testing	Daily	Regular sniff testing around the boundary to check for detectable odour, with findings recorded in an 'odour diary'. Testing will be undertaken daily by the Contractor during working hours, at locations on the boundary (as per Figure 3-1), upwind and downwind of possible sources during the remediation and gasholder decommissioning phase. To be undertaken by at least a competent (trained) operative to record information on intensity, frequency and character of odour, using the six-point scale for describing odour intensity (German VDI standard as referenced in the IAQM odour guidance for planning). Contractor staff undertaking surveys should ideally be office based, and able to distinguish between different odour sources e.g. solvents, diesel fumes, tars. Independent sniff tests by a non site-based member of staff at minimum monthly intervals should check also for any potential loss of sensitivity of site staff to ensure ongoing value of the testing.	Daily site logs to include completed sniff test form e.g. Appendix C.
Odour	Sniff testing	Ad hoc	Increase frequency of sniff testing during remediation and gasholder decommissioning works with higher potential for odour generation. The aim should be to pre-empt potentially significant odorous activity so that mitigation is not reactive to odours being reported but instead, applied pro-actively. Undertake additional sniff testing if reports from resident or other stakeholder are received suggesting noticeable odours offsite.	Sniff test form e.g. Appendix C.

Determinant	Monitoring Activity	Frequency	Detail	Evidence
Total VOCs	Handheld PID	Daily	Manual Photo Ionisation Detector (PID) readings of Total VOCs will be recorded daily using a handheld 10.6Ev lamp device[5] at the workface and site boundary (see Figure 3-1 for locations). Boundary readings will be taken at the same time as visual daily sniff test observations during the remediation phase. The handheld unit will have a minimum limit of detection of 0.1 ppm, and be regularly calibrated / zeroed according to manufacturer's instructions to avoid instrument drift / bias.	Daily site logs
Total VOCs	Handheld PID	Ad hoc	Ad-hoc boundary readings using a PID will also be undertaken if the onsite detection of VOCs or olfactory observations indicate potential for offsite odours / vapours during remediation works on site. Checks on VOCs using a PID will be made in the event of consistent elevated odours (i.e. three or higher on the VDI scale) at the boundary to give site management an early warning and opportunity to review working methods before (and to prevent) any unacceptable odours (four or higher) occurring offsite. Monitoring frequency to be increased on or offsite if required based on the site activities, meteorological conditions and the measured VOC concentrations	Daily site logs
Total VOCs	Fixed unit	Continuous	Continuous monitoring of total VOCs at two fixed locations on the boundary, aligned to the prevailing up (west) and down (east) wind directions (see Figure 3-1). The units will be fixed PID instruments (again, a 10.6Ev lamp device[5]) that provide real-time information on VOC concentrations to allow contractor intervention in the event of an alarm sounding. The minimum level of detection on the fixed PID instrument will be 0.01 ppm.	Weekly contractor reporting of exceedances of site alert criteria

[5] The PID instruments shall have a 10.6 electron-volt (eV) ultra-violet lamp that will ionise hydrocarbons with ionisation energies below this level allowing the measurement of VOCs commonly identified on remediation sites (i.e. BTEX and naphthalene, which all have ionisation energies below the PID lamp energy).

Determinant	Monitoring Activity	Frequency	Detail	Evidence
			Real-time reporting against alert thresholds during the remediation phase to ensure prompt response to exceedances of precautionary short-term thresholds set using a traffic light system of action levels for VOC and odour concentrations: ▪ green (proceed), ▪ amber (investigate and mitigate) and ▪ red (stop works that are generating odour release and re-evaluate methodology and controls). Each boundary device will have a minimum level of detection of 0.01 ppm and will be programmed to sound an alarm when ▪ an interim action level of 0.7 ppm is exceeded for a period of 15 minutes; ▫ site activities require investigation and further mitigation or controls may need to be applied; ▪ an action level of 1.0 ppm is exceeded for a period of 15 minutes. ▫ site activities generating odour should be temporarily stopped until VOC concentrations reduce to below the action level.	
Particulate matter / dust ($PM_{2.5}$, PM_{10})	Fixed unit	Continuous	Continuous monitoring of airborne particulate matter ($PM_{2.5}$ and PM_{10}) as the component of dust with potential to affect human health. Two fixed locations on the boundary, aligned to the prevailing up (west) and down (east) wind directions (see Figure 3-1). The unit should measure and report concentrations in real time and be MCERTS indicative within a suitable range for a construction site environment. Automatic SAL alerts will be set up to inform the site management team if concentrations exceed the proposed site action level (190 µg/m^3 as an hourly mean) which indicates further mitigation is required.	Weekly contractor reporting of exceedances of site alert criteria
Individual VOCs (BTEX, PAH)	Passive Tenax, boundary	Fortnightly	Passive monitoring using Thermal Desoprtion (TD) tubes packed with the 'Tenax' medium, followed with analysis by an offsite laboratory to establish concentrations of individual target VOCs (including benzene and naphthalene, which have the	Monthly contractor reporting against health criteria

Determinant	Monitoring Activity	Frequency	Detail	Evidence
			most stringent health criteria, and other compounds listed in Table 3-3) over longer exposure periods. Five Tenax tubes will be deployed for passive monitoring on the site boundaries (see Figure 3-1) during gasholder decontamination and remediation works with potential for odour generation. The tubes will be exposed for 2 weeks at a time (due to access changing, this may need to be 14 +/- 2 days but always a minimum of 10 and maximum of 30 days exposure in line with tube supplier's guidance). Tenax tubes will be sent to an accredited laboratory for quantitative analysis to establish concentrations of individual VOCs at concentrations in the low parts per billion range. The results will be compared to a range of ambient and indoor health guidelines for the assessment of impacts on health from long term exposure to VOCs (See Table 3-3). Comparison of the two-week average concentrations to long-term criteria will highlight any potential risk of concentrations approaching public health criteria for long term (i.e. annual mean) exposures before the relevant exposure period applies. A quantitative screen of the Top 20 VOCs will be requested for the first month of the remediation and gasholder decommissioning works programme , to provide an in depth understanding of the range of VOC emissions. This can be refined over time once key site-specific compounds have been determined.	
Individual VOCs (BTEX, PAH)	Active Tenax, onsite	Ad hoc	Pumped Tenax monitoring over shorter time periods (up to 1 hour) will be undertaken at specific stages of remediation and gasholder decommissioning works programme work, timed to coincide with the potential key odour sources to understand how individual activities/areas contribute to VOC emissions and what the key VOC concentrations are over short timescales. Sampling will use a calibrated pump with a defined flow rate suitable for the expected concentrations. The results will be compared to short term (hourly, daily) health standards and, by extrapolation, odour thresholds. The results provide a	Monthly contractor reporting against health criteria

Determinant	Monitoring Activity	Frequency	Detail	Evidence
			snapshot of emissions from the activities ongoing at the time of sampling so are useful for informing mitigation. A screen of the Top 20 VOCs and faster turnaround time from the laboratory will be requested for these active samples which are relevant to shorter exposure periods. The frequency of pumped sampling shall be determined by specific work packages, and the likelihood of encountering significant odour sources.	
Odour, dust	Community feedback	Ad hoc	It is important helpful for community feedback to be as specific as possible, to help the on-site team identify potential emissions sources and to be able to react/adapt if needed. The feedback can be compared to contractors' daily activity diaries to assist with interpreting reports of activities on site and reports of impacts offsite.	Feedback logs

3.4.4 Assessment criteria

The continuous instruments, installed for recording of boundary concentrations of particulate matter (PM_{10}, $PM_{2.5}$) and total VOCs, will be set up to provide automated alerts when precautionary thresholds are exceeded. This will enable the contractor to apply additional mitigation where required or if this is not effective, then to temporarily stop works.

There will be three levels of alerts, in line with a "traffic light" system:

- **Green**: Proceed, no further action needed
- **Amber**: Investigate and mitigate
- **Red**: Stop works temporarily

3.4.4.1 Particulate matter

The two fixed monitoring units on the site boundary will be set up to send alerts at levels consistent with IAQM (2018) Construction Dust Monitoring Guidance recommendations:

- Amber: 250 µg/m^3 over 15 minutes as an early warning; and
- Red: 190 µg/m^3 over 1 hour as an indication of the need to take action.

Monthly averages will be compared to AQS Objectives for annual mean PM_{10} and $PM_{2.5}$ to track long term trends.

3.4.4.2 Visual dust

Where, in the opinion of the person undertaking the inspection (visual or olfactory), there is evidence of unacceptable pollution beyond the site boundary, corrective action should be taken and recorded in the form. If the source of the emission is uncertain or disputed, the Site Manager or delegate should investigate. Where necessary, they may propose further monitoring to identify the site operations giving rise to the dust.

The frequency of visual inspections can be increased to at least twice daily if off site impacts (substantial visual plumes or visible deposition of dust offsite) are regularly observed by a member of the site team, reported by a member of the public or a council representative, and/or if activities are regularly found to be creating dust on site and require more regular observations to agree appropriate controls and monitoring. The need for further monitoring will be kept under review by the Site Supervisor.

3.4.4.3 Total VOCs

As part of a multi-layered approach in combination with the results from odour sniff testing and Tenax tube analysis, SALs for TVOCs support a robust monitoring protocol for the contractors to apply on an active work site. Baseline concentrations will be established prior to commencing remediation works and regular reviews undertaken to ensure the suitability of these proposed alerts, i.e. to remove the risk of false alarms due to contributions from other offsite sources of VOCs and ensure action is taken at an appropriate stage.

For total VOCs, different alert levels are set according to location due to the greater potential for receptor exposure. For site boundary monitoring alerts will initially be set at:

- Amber: 0.7 ppm over 15 minutes; and
- Red: 1.0 ppm over 15 minutes

Handheld PIDs will provide amber and red alerts over shorter time periods and will initially be set at:

- Workface – 0.7 ppm over 1 min (amber); 1.0 ppm over 1 min (red);
  - Amber alert initiates consideration of mitigation, red requires investigation at downwind boundary;
- Boundary – 0.7 ppm over 5 mins (amber); 1.0 ppm over 5 mins (red);
  - Amber alert initiates application of mitigation; red requires investigation at nearest offsite receptor.

These ranges have been developed using industry-wide experience of VOC and odour monitoring at similar gasholder decommissioning and remediation sites. For Bromley by Bow, given the history of the site and site investigation data, they are considered precautionary and therefore suitable for instigating proactive checks onsite and for considering the need for offsite investigation at locations where members of the public may be exposed.

The PID upper alert level of 1 ppm total VOCs is based on the 8 hour time weighted average (TWA) workplace exposure level (WEL) set by the Health and Safety Executive (HSE) for benzene. Applying this value of 1 ppm as an alert level for total VOCs at the excavation workface implies conservative assumptions regarding the total VOC composition, which will not be all benzene and will comprise many other substances typically with less stringent WELs (e.g. toluene 50 ppm). It is also conservative regarding the duration of exposure, applying after 5 to 15 minutes not 8 hours. This should ensure that concentrations of individual VOCs remain below public health criteria over the longer term but will be kept under review as the works proceed.

The interim alert value (0.7 ppm) has been set taking into consideration the limit of detection of the handheld PID (0.1 ppm) and the upper alert level of 1 ppm. Concentrations at these interim values, if sustained over time periods of 5 minutes at the boundary, will be practicable to implement on site and evident to the person undertaking the reading to allow them to initiate appropriate action where needed.

3.4.4.4 Odour

For odours, alert levels are based on the German standard VDI scale[6] of 0 to 6:

0. No odour
1. Very faint odour (doubt as to presence)
2. Faint odour (present but cannot be described)
3. Distinct odour (just recognisable)
4. Strong odour (easily recognisable)
5. Very strong odour (offensive and undesirable)
6. Extremely strong odour (offensive, could induce vomiting due to strength).

The following alert levels are proposed to reflect the potential for an odour to travel offsite and be detected by a receptor, and for the purposes of protecting offsite amenity:

- Amber:
  - workface: an intensity of 4 (strong) consistently over 5 minutes;
  - boundary: an intensity of 3 (discrete) consistently over 5 minutes.
- Red:
  - workface: 5 (very strong), consistently over 5 minutes
  - boundary: an intensity of 4 (strong) consistently over 5 minutes.

3.4.4.5 Individual VOCs

Passive Tenax tube monitoring will provide fortnightly average concentrations of individual VOCs. A range of different sources for health criteria exist including the Environment Agency (2016) permitting guidance Environmental Assessment Levels (EALs), Public Health England (now UKHSA) and World Health Organisation (WHO) indoor air quality guidelines and the United States ATSDR minimum risk levels (MRL). The different organisations identify different concentration thresholds and different averaging periods for individual compounds. A hierarchy has been

[6] Verein Deutscher Ingenieure (VDI) (Association of German Engineers) Standard (VDI 3882, Part 14)

established (IAQM 2025), starting with UK regulatory sources, then European, then international bodies e.g. WHO, followed by other countries with similar available technology e.g. the US MRLs.

A selection of air quality criteria for pollutants commonly measured on gasholder remediation sites is shown in Table 3-3. The list will be updated if other contaminants are identified from the analysis including the Top 10 screening. The fortnightly readings will be compared to short term criteria (hourly, daily), as well as to long term (weekly, annual mean) assessment criteria, in line with a precautionary approach (as average concentrations tend to decrease over time compared to short term peak readings).

The data will not be received in real-time but will enable retrospective verification that the alert thresholds are suitably protective of human health over longer exposure periods. The monthly contractor reporting will include a check of trends in concentrations over time, and if increases towards long term criteria are observed, a management review of controls and mitigation will be undertaken to ensure they are not exceeded.

The pumped Tenax sampling duration will mean results are more comparable to short term EALs, US MRLs for acute exposures and odour thresholds. These sampling exercises are intended to be undertaken during activities with higher potential for VOC release e.g. during gasholder desludging, and therefore a faster laboratory turnaround will be requested so that the results can be used to inform management activity on site.

Table 3-3 – Health-based air quality criteria and odour thresholds for individual VOCs (µg/m^3)

Determinand	EA EAL Long term	EA EAL Short term	PHE[7] Indoor Guideline	WHO Guideline	US MRL ATSDR§	Odour Threshold
Benzene	5 (1 year)*	30 (daily)	-	0.17 – 17 (annual ambient)	9.6 (chronic) 30 (acute)	5,000 (US EPA)
Toluene	260 (1 week)	8,000 (1h)	2,300 (daily)	260 (weekly indoor)^	3,800 (chronic) 7,640 (acute)	1,000 (WHO)
Ethylbenzene	4,410 (1 year)	55,200 (1h)	-	-	260 (chronic) 22,050 (acute)	738
m-/p-/o-Xylene	4,410 (1 year)	66,200 (1h)	100 (annual)	-	220 (chronic) 8,800 (acute)	4,776 (US EPA)
Naphthalene	3 (daily)	-	3 (annual)	10 (annual indoor)	3 (chronic)	7.5 to 420 (WHO)
Styrene	260 (1 week)	800 (1h)	850 (annual)	260 (weekly indoor)^	850 (chronic) 21,300 (acute)	70 (WHO)
Trimethylbenzenes	1,250	37,500 (1h)	-	-	-	590

* *Air quality standard for benzene set in UK regulations*
^ *Values adopted by the EA as revised ambient long-term EALs with weekly averaging periods*

[7] PHE is now renamed as UKHSA

§ MRLs for acute (1-14 days) and chronic (1 year) exposure periods are screening levels to identify environmental exposures that might harm people's health. If an exposure is below an MRL, it is not expected to result in adverse effects; if above an MRL, further evaluation is undertaken to determine if it might harm human health.

3.5 Training

Familiarisation exercises will be undertaken to increase contractor awareness of environmental sensitivities around the Site and the associated mitigation, monitoring and reporting requirements. Dust and odour mitigation awareness sessions will be included in site inductions for all contractors and site visitors.

Daily sniff testing for odours and visual inspections for dust within the boundary and in the surrounding area will be undertaken throughout demolition, gasholder decommissioning, remediation and enabling works. Contractor's site staff will be provided with appropriate training, including toolbox talks on how to undertake these surveys, using established protocols and templates for data collection (see Appendix C) to add value to this qualitative approach.

4. Reporting and communication

4.1 Review and reporting

Continuous and passive boundary VOC monitoring and continuous dust monitoring will be carried out over a period of two months to establish baseline concentrations before starting demolition, gasholder decommissioning, remediation and enabling works. A report will be produced summarising these findings and the proposed SALs.

During the remediation works, PID results for total VOCs will be compared to SAL amber/ red alert thresholds on a daily basis. Monthly, concentrations of individual VOCs from Tenax readings will be compared to appropriate health-based guidelines for short- and long-term exposure (see Table 3-3).

During the remediation and construction works, particulate matter concentrations will be compared to SAL amber/red alert thresholds on a daily basis. Monthly, concentrations will be compared to the daily and annual mean objectives/targets for PM_{10} and $PM_{2.5}$.

The contractors and site operatives will closely review site monitoring data and make adaptions as needed to keep odours, dust and vapours below agreed thresholds. Working methods will be reviewed, and if required, be stopped in line with the traffic light system and replanned if necessary.

Data will be reviewed regularly by an air quality specialist and readings above thresholds for health and nuisance immediately alerted to the relevant contractor to review if further mitigating action is required. A database will be maintained for analysis to track trends, which can be shared with the Local Planning Authority on request.

A monthly summary of monitoring data and dust and odour records will be produced by the contractor to inform on site performance and this will be discussed with the developer at regular management meetings. Information suitable for external communication, with quarterly reporting to the local authority providing the medium-term picture against health based thresholds, will be produced.

4.2 Communication and feedback

Open communications will be maintained with the local community by the relevant stakeholder engagement team and contractor. This may include regular updates on upcoming works through newsletters, email and website updates and use of a community news board on the site boundary.

The site contact details will be clearly displayed online on an appropriate website, posted as a sign on the site itself and circulated to neighbouring properties via the initial mail shot. There will be a dedicated site contact for the public to contact and feedback and questions will be acknowledged promptly and responded to. A dedicated system for logging feedback will be established by the developer and advertised via leafleting/notices.

If dust, odour or any other concerns are raised, these will be considered in a timely manner and the nature of the complaint reviewed against daily site activity logs and monitoring data. This will help to understand if the observations relate to site activities and if so, whether modifications to working methodology would be practicable.

It is imperative that residents and other members of the public are in a position to be able to raise their concerns through an official route and that they receive a swift response. That response should set out how their feedback will be dealt with and thereafter keeping them informed throughout the follow-up process, including the outcome of any corrective actions.

The more information that the public can provide about their concerns, the more effective any necessary corrective action may be. The operative receiving the feedback should refer to the information in Appendix C to provide suitable prompts. Some residents may choose to keep their own dust/odour diaries and share them with the site manager.

All feedback received will be assigned a unique reference number and a response provided in a timely manner (ideally within 24 hours excluding Sundays and Public Holidays). Local residents and the regulator shall be kept informed of subsequent actions in response to their feedback. Complaints will be escalated to Senior Management if required.

A summary of communications, feedback, complaints, and corrective actions will be provided to the Site Management Team. The Local Authority Environmental Health Officer will be provided with periodic advice on any relevant issues that may arise.

APPENDICES

Appendix A. Phasing Plan



Figure A-1 – Phasing Plan for Bromley by Bow Gasworks

Appendix B. Baseline Monitoring

B.1 Odour

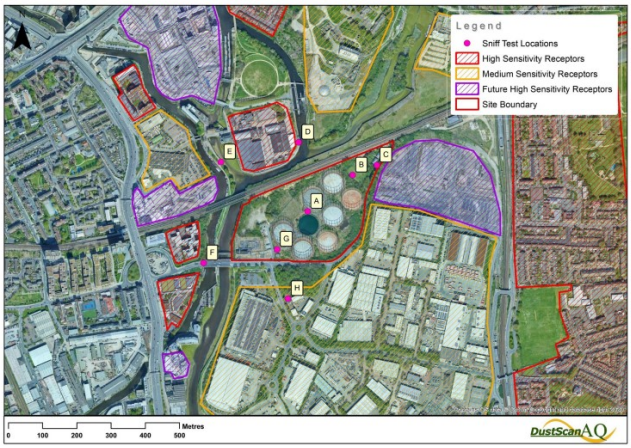
DustScanAQ completed baseline odour sniff testing prior to ground investigations and subsequent odour sampling during ground investigations in 2021, as reported in the Geoenvironmental Interpretative Report (2023).

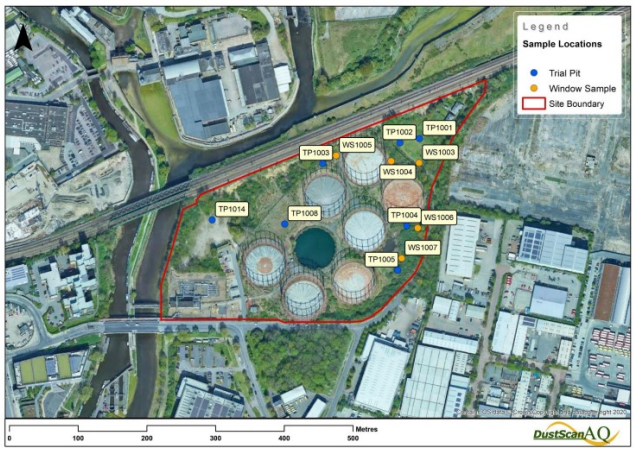
Baseline sniff testing was undertaken at locations A to H shown in Figure B-1. The surveyors reported very faint to discrete intensity odours, but did not identify any industrial type odours likely to be associated with the site

The sniff testing during window sampling (trial pit excavations) on 22nd September 2021 identified discrete rubber/coal tar odours at window sample WS1007, in the south east corner of the site within the proposed Phase 1a & 2a area (see Figure A-1). Only faint odours were detected at subsequent window sampling locations. In general, no relationship was identified between window sample depth and odour intensity. Instead, odour intensity was found to be more closely related to the specific material being sampled.

Odour bag samples were taken from contaminated soil and made ground excavated from the trial pits on 29/09/2021, 30/09/2021 and 04/10/2021. Seven of the 18 trial pits completed yielded material with 'contaminated' odours, which is understood to refer to VOCs. Out of these pits, only a relatively small amount of material was identified which had odours characteristic of aromatic hydrocarbon contamination from coal products/gasworks. The odour concentrations for the samples taken are presented in Figure B-1. The average concentration for material from location TP1005 was over 100 ou/m^3.

GC-MS analysis of sorbent tubes was undertaken to identify the chemical compounds contributing to the odours. Some of the compounds identified included naphthalene and benzene, found in material contaminated with the products of coal processing, although these were not reported in TP1005 from within Phase 1a & 2a (the total VOC result for this sample was below 0.04 mg/m^3). None of the compounds identified were above their individual odour thresholds. However, the air samples were nevertheless considered odorous, since combinations of individual compounds act together to be detectable as odours.





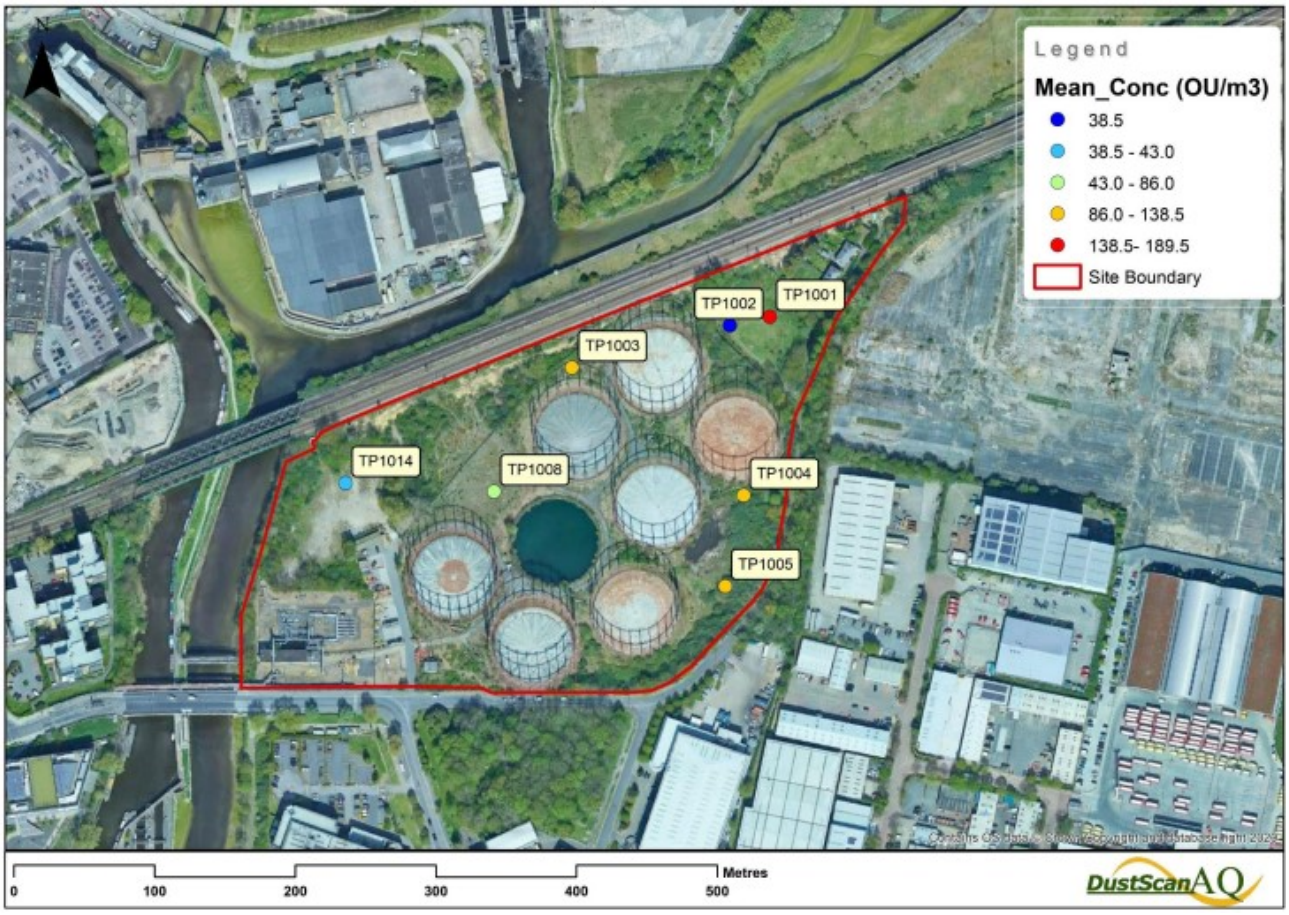


Figure B-1 – DustScanAQ Odour Sniff Test, Window Sampling and Bag Sampling Locations

Appendix C. Record Keeping

C.1 Survey Good Practice

Sniff testing and observations for visual dust are to be carried out by the contractor on a regular (minimum daily) basis. When on site odours and visible dust are encountered, these should also be followed up with a survey at the boundary to check the rate of dispersion and effectiveness of mitigation.

Ensuring the consistency of information recorded during these surveys is essential. Templates for recording the findings of sniff testing and visual dust inspections are provided in Section C.2 and Section C.3 respectively. These (or similar) should be used to keep records on site.

There are some specific recommendations when undertaking an odour sniff test to improve the effectiveness:

- Do not undertake the test if you have been exposed to strong odours throughout the day, and avoid coffee or other strongly favoured food/drink within 2 hours prior to test;
- Aim to survey at the same location each time you undertake the survey, at a range of times and under different wind conditions and site activity (see Figure 3-1);
- Check wind direction/speed before starting, and start upwind of the site and gradually move to downwind locations;
- Record survey locations using a unique identifier not just road/ street name / general area;
- Record as much detail as possible as to the character of the odour i.e. description of what it smells like;
- Record odour intensity using the VDI scale recording every 10 to 20 seconds, to allow an understanding of the amount of time at a certain intensity, for a 5-minute duration;
- Record VOC readings e.g. handheld PID or site boundary unit, if available;
- Note any nearby activities, on or offsite, which may potentially be contributing to odours at the time
- Increase the frequency of sniff tests if complaints are received or odorous activities are ongoing;
- Ideally surveyors should be “acuity tested” to check their sensitivity to odour and undertaken by staff who are primarily office-based and not subjected to site odours over the course of the day.

C.2 Odour Sniff Test Template

Reporter name(s)	
Date ***(day/month/year)***	
Time of test	
Location of test ***(Street name – not house name or number)***	
Weather conditions ***(delete as appropriate or add other)***	*sunny, dry, light rain, heavy rain, fog, snow*
Temperature ***(delete as appropriate or enter in degrees)***	*very warm, warm, mild, cold, freezing*
Wind strength ***(delete as appropriate)***	*none, light, steady, strong, gusting*
Wind direction ***(e.g. blowing from west)***	
Intensity out of a score of 6 ***(see below, e.g. 0, 3-6, 2-3, 4-6 etc.)*** ***Record every 10-20 seconds***	
Duration of test ***(e.g. 5 mins)***	
Constant or intermittent odour?	
Frequency of detection during monitoring period ***(e.g. never, once, every 30 secs, every 60 secs etc)***	
What does it smell like? ***(e.g. is the smell offensive?)***	

Sensitivity of location ***(see below, low, medium, high)***	
Any other comments or observations ***(e.g. PID reading, notes on other activities nearby)***	
Intensity *(German Standard VDI 3882, Part 14)* **0 - No odour** **1 - Very faint odour *(doubt as to presence)*** **2 - Faint odour *(present but can't be described)*** **3 - Distinct odour *(just recognisable)*** **4 - Strong odour *(easily recognisable)*** **5 - Very strong odour *(offensive and undesirable)*** **6 - Extremely strong odour *(offensive, could induce vomiting due to strength)***	**Location sensitivity** *(where odour is detected)* Low - footpath, road) Medium - industrial or commercial workplaces High - housing, pub/hotel etc.

C.3 Dust Inspection Form

Week Commencing	dd/mm/yyyy						
Inspection items	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Person completing checklist							
Time of day							
Weather conditions Wind speed, direction, rainfall							
Dust controls correctly implemented [Y/N]							
Visual inspection of dust from excavations and stockpiles [Y/N]							
Visual inspection of plant operating to reduce dust creation [Y/N]							
Visual inspection of stockpile cover systems [Y/N]							
Visual inspection or waste storage [Y/N]							
Visual inspection of mud or debris on haul routes [Y/N]							
Visual inspection of dust soiling on neighbouring streets, street furniture, cars and window sills [Y/N]							
Wheel wash used and operated satisfactorily [Y/N]							
Dust mitigation equipment operating satisfactorily [Y/N]							

Week Commencing	dd/mm/yyyy						
Inspection items	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Weather vane operational [Y/N]							
General comments and observations *e.g. dust soiling evident beyond boundary, description of where (haul route, property, cars), type of dust observed, activities underway*							
Actions proposed							

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