



CLARITAS GROUP

**HOWITT CLOSE,
BELSIZE PARK,
CAMDEN, NW3 4LX**

**DUST
MANAGEMENT
PLAN**

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DRAFT REPORT



CLARITAS GROUP
HOWITT CLOSE, BELSIZE PARK, CAMDEN, NW3 4LX
LONDON BOROUGH OF CAMDEN
DUST MANAGEMENT PLAN

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1. INTRODUCTION

1.1 Background

- 1.1.1 Southdowns Environmental Consultants Ltd (Southdowns) was commissioned by Claritas Group Ltd in March 2021 to produce an Air Quality Dust Management Plan (AQDMP) for a proposed residential redevelopment located at Howitt Close in Camden.
- 1.1.2 The purpose of the AQDMP is to prescribe appropriate measures to manage dust impacts from the site. This is done through assessing the potential risk of adverse dust impacts and identifying appropriate best-practice site-specific measures, commensurate with the risk.
- 1.1.3 This document has been prepared in accordance with the principles and requirements of the Mayor of London's Supplementary Planning Guidance (SPG), *The Control of Dust and Emissions During Construction and Demolition* [1].

1.2 Report Structure

- 1.2.1 Details of the site and the proposed scheme are described in the following section of this report. The dust impacts from the construction are assessed in Section 3, proposed mitigation measures and monitoring strategy is presented in Section 4 and the assessment is summarised in Section 5. Figures are presented in Appendix A of this report and an Incident and Complaint Reporting Template is presented in Appendix B.



2. SITE DETAILS

2.1 Site Description

- 2.1.1 Howitt Close is located at the southern end of Howitt Road where it merges onto Glenilla Road in Belsize Park, within the administrative boundary of the London Borough of Camden (LBC).
- 2.1.2 The existing L-shaped property comprises a three-storey residential building, accommodating approximately 10 no. apartments per floor. The property is in an urban setting, surrounded predominantly by residential units with a small number of commercial premises situated on Howitt Road and Belsize Park Gardens, including Belsize House hotel to the south of the site and Linden Baroque Orchestra to the northeast. Residential properties bound the development site on Belsize Park Gardens to the south, Belsize Grove to the east, Howitt Road to the north and Glenilla Road to the west.
- 2.1.3 Haverstock Hill (A502) is approximately 250 m northeast of the proposed development site with Belsize Park underground station located approximately 280 m in the same direction.
- 2.1.4 The site location plan is presented in Figure A1 of Appendix A.

2.2 Proposed Development

- 2.2.1 The development proposal involves the removal of the existing flat roof and the construction of an additional attic-roof storey to the existing building, to provide 7 no. new residential apartments in a mixture of one and two bed units.
- 2.2.2 The construction works are projected to commence at their earliest in 2021, and as such is assumed as a worse-case scenario, as pollution concentrations are likely to decrease in future as the number of newer, cleaner vehicles increases.



3. DUST AND EMISSIONS RISK ASSESSMENT

3.1 Overview

- 3.1.1 The purpose of this assessment is to identify the level of risk of dust and emissions associated with the construction activities, and to propose a suitable mitigation plan to ensure negative impacts are controlled and mitigated.
- 3.1.2 Dust from construction processes contains a range of particle sizes, types, and compositions. These can cause annoyance from soiling, or even morbidity or mortality effects. The emissions for consideration in this assessment are particulate matter, (in particular PM₁₀, defined as a mass fraction of airborne particulates with an aerodynamic diameter of 10 microns or less) and oxides of nitrogen.

3.2 Methodology

- 3.2.1 The assessment has been undertaken in accordance with the method outlined in the Mayor of London's Supplementary Planning Guidance, *The Control of Dust and Emissions During Construction and Demolition* [1]. The main steps are as follows:
- screen the need for a detailed assessment;
 - assess the risk of dust impacts during the demolition, earthworks, construction and track out phases;
 - define the potential dust emission magnitude;
 - define the sensitivity of the areas; and
 - define the risk of impacts.
- 3.2.2 Baseline air quality conditions at and around the development site have been considered using the predicted ambient pollutant concentrations provided by the London Atmospheric Emissions Inventory (LAEI) [2], the London Borough of Camden's (LBC) 2020 Annual Status Report for 2019 [3] and Defra's background maps [4].

3.3 Screening

- 3.3.1 Assessment is required if there is a human receptor within 350 m of the boundary of the site or 50 m of the trackout route (up to 500m from site entrance) or if there is an ecological receptor within 50 m of the boundary of the site or track out routes (up to 500m from site entrance).
- 3.3.2 Human health impacts and dust soiling impacts have been assessed and reported below.

3.4 Sensitive Receptors

- 3.4.1 Relevant locations where people or wildlife may be adversely affected by changes in air quality or dust soiling are relevant receptors. Receptors introduced by the proposed development may also be relevant.
- 3.4.2 For dust soiling, high-sensitivity receptors may include both residential and ecological receptors, whilst medium- to low-sensitivity receptors may include amenity areas and workplaces.
- 3.4.3 There are numerous residential receptors in the vicinity which could be affected by changes in air quality arising from construction activities associated with the development. Commercial premises in the area will also be sensitive to dust.



- 3.4.4 Residential units located within 20 m of site are No. 53, 55, 57, 60 and 62 Howitt Road to the north, No. 42 Glenilla Road to the west, and even-numbered properties from No. 38 to 44 on Belsize Park Gardens and No. 1 to 10 Manor Mansions to the south.
- 3.4.5 Residential receptors located within the existing property undergoing construction activities are also considered as sensitive receptors within this assessment.
- 3.4.6 No ecological receptors have been identified in the vicinity of the development site. Therefore, ecological receptors have been scoped out of this assessment.

3.5 Baseline Conditions

Particulate Matter (PM₁₀)

- 3.5.1 Predicted ambient pollutant concentrations are available from the Greater London Authority's London Atmospheric Emissions Inventory (LAEI) [2] at a 20 m² grid resolution across London for 2016 (baseline year). The highest predicted 2016 mean annual PM₁₀ concentration is 22.7 µg/m³ at the development site.
- 3.5.2 Predicted background pollutant concentrations are available from the Defra website [4] for 1 km² grid squares across the UK. Concentrations of PM₁₀ have been extracted for grid square centred on 527500, 184500, which overlays the site. The modelled predictions of mean annual background PM₁₀ concentration in 2021, the proposed first year of construction, is 17.6 µg/m³ and is predicted to decline in future years.
- 3.5.3 The nearest PM₁₀ urban background monitor within Camden is located at Coopers Lane, approximately 3 km to the south east of the development site. The measured annual mean PM₁₀ concentration in 2019, the most recent reported year, was 15 µg/m³, well within the annual mean PM₁₀ national air quality objective (AQO) (annual mean of 40 µg/m³). The 24-hour mean AQO (of 50 µg/m³ not to be exceeded more than 35 times a year) was exceeded five times in 2019.
- 3.5.4 Particulate concentrations in the immediate vicinity of the site currently meet the annual mean and the 24-hour mean PM₁₀ AQOs and are likely to decrease in future as the number of newer, cleaner vehicles increases. Therefore, for the purposes of this assessment, the assumed ambient concentration of PM₁₀ during 2021, the anticipated first year of demolition and construction activities, is predicted to be <24 µg/m³.

Nitrogen Dioxide (NO₂)

- 3.5.5 According to the LAEI, the highest predicted 2016 mean annual NO₂ concentration is 39.6 µg/m³ at the development site.
- 3.5.6 The Defra modelled predictions of annual mean background NO₂ concentration in 2021 is 25.2 µg/m³. NO₂ concentrations are predicted to decline in future years.
- 3.5.7 The nearest NO₂ urban background monitor is located at London Bloomsbury, approximately 4 km to the south east of the development site. The measured annual mean NO₂ concentration in 2019, the most recent reported year, was 32 µg/m³.
- 3.5.8 NO₂ concentrations in the immediate vicinity of the site currently meet the annual mean NO₂ AQO (annual mean of 40 µg/m³) and are likely to decrease in future as the number of newer, cleaner vehicles increases.



3.6 Magnitude of Dust Emissions

Demolition

- 3.6.1 The total building volume to be demolished is approximately 10 m³. The materials to be demolished primarily consist of concrete and brick. Demolition activities will occur up to a height of approximately 10m above the ground. All materials will be demolished by using hand-held instruments and a small-goods hoist will be used to transfer materials from the roof to ground level. There will be no onsite crushing and screening. Demolition works will last for approximately two weeks. The site is considered to have a 'Small' dust emission magnitude for demolition.

Earthworks

- 3.6.2 The approximate site area with undergoing earthwork activities is 20 m² and will be located in the rear gardens. The total material moved is estimated to be approximately eight tonnes. Material to be excavated includes London Clay Formation (clay, silt, and sand) with a high potential for dust release [5]. It is anticipated there will be one heavy earth moving vehicle active on site at any one time; this will likely be a small-tracked excavator. There will be no stockpiles onsite space. Spoil will be transferred directly into skips and removed from site. Earthworks will last for approximately two weeks. The site is considered to have a 'Small' dust emission magnitude for earthworks.

Construction

- 3.6.3 The total building volume is estimated to be 1,500 m³. The construction material will comprise concrete plinths, hot-rolled steel grillage, concrete tiles, liquid membrane, wall render and brick. Concrete will be mixed onsite and there will be no onsite sandblasting activities. Although the total building volume is small, the concrete component will be mixed on-site and presents a high potential for dust release. The site is therefore considered to have a 'Medium' dust emission magnitude for construction.

Trackout

- 3.6.4 The peak number of heavy-duty vehicle (HDV) outward movements per day is predicted to be approximately four. All HDVs will remain on paved roads. In light of this, the site is considered to have a 'Small' dust emission magnitude for trackout.
- 3.6.5 The dust emission magnitudes for all activities are summarised in Table 3.1 overleaf.

Activity	Dust Emission Magnitude
Demolition	Small
Earthworks	Small
Construction	Medium
Trackout	Small

TABLE 3.1: DUST EMISSION MAGNITUDE

3.7 Sensitivity of the Area

- 3.7.1 There are between 10 and 100 receptors with a high sensitivity to dust soiling and health impacts within 20 m of the site boundary, as illustrated in Figures A2 and A3 of Appendix A. Approximately 30 no. residential receptors are located within the existing property undergoing construction activities. Nearby receptors are predominantly residential



properties, including one commercial property, Belsize House hotel, which all have a high sensitivity to both dust soiling and health effects.

- 3.7.2 The sensitivity of the area to dust soiling from demolition, earthworks and construction activities is assessed as 'High'. The sensitivity of the area to human health impacts from all on-site activities is assessed as 'Low' due to the number and proximity of sensitive receptors and a background annual mean PM₁₀ concentration less than 24 µg/m³ in the vicinity of the site.
- 3.7.3 The sensitivity of the area with respect to dust soiling and health effects from trackout is defined as 'High' and 'Low' respectively, due to trackout routes cumulatively being within 50 m of between 10 and 100 receptors and a background annual mean PM₁₀ concentration of less than 24 µg/m³ in the vicinity of the site.
- 3.7.4 The sensitivity of the area is summarised in Table 3.2.

Sensitivity of the Area	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High	High	High	High
Human Health	Low	Low	Low	Low

TABLE 3.2: SENSITIVITY OF THE AREA ASSESSMENT

3.8 Dust Risk

- 3.8.1 The likely risk of dust effects, based on the contents of Table 3.1 and 3.2, at nearby sensitive receptors without mitigation in place is summarised in Table 3.3. There is a 'Medium' risk of dust soiling at local receptors from demolition and construction activities and a 'Low' risk from earthworks and trackout activities. There is a 'Low' risk of human health impacts from construction activities and a 'Negligible' risk from demolition, earthworks and trackout activities.

Summary	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium Risk	Low Risk	Medium Risk	Low Risk
Human Health	Negligible Risk	Negligible Risk	Low Risk	Negligible Risk

TABLE 3.3: SUMMARY DUST RISK CATEGORY



4. MITIGATION

4.1 Construction

- 4.1.1 Under best-practice guidance, the proposed development constitutes a 'Medium' dust risk during construction phase activities.
- 4.1.2 Impacts associated with the proposed development are likely to be in the form of dust generated primarily during construction phase activities. The use of appropriate mitigation measures throughout the demolition and construction phases will ensure that impacts are minimised or removed.
- 4.1.3 Based on the results of the dust risk assessment, it is proposed that the following 'highly recommended' general best-practice measures listed in Table 4.1 (taken from London Plan SPG [1]) be adopted and included in the site environmental management plan / construction management plan (SEMP/CMP). Camden Council's (CC) 'Camden Planning Guidance' (CPG) document on Air Quality [6] has been considered in drawing up these measures.
- 4.1.4 The dust mitigation measures outlined are not intended to be a complete list of all best practice guidance; for full mitigation measures and control, the London Plan SPG should be consulted. Provided these measures are adhered to, emissions from the site during construction should not present a significant problem at local receptor locations.

Management Category	Mitigation Measure
Site Management	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
	Develop a Dust Management Plan.
	Display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary.
	Display the head or regional office contact information.
	Record and respond to all dust and air quality pollutant emissions complaints.
	Make a complaint log available to the local authority when asked.
	Carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and make an inspection log available to the local authority when asked.
	Increase the frequency of site inspections by those accountable for dust and air quality pollutant emissions issues when activities with a high potential to produce dust and emissions and dust are being carried out, and during prolonged dry or windy conditions.
	Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and the action taken to resolve the situation is recorded in the log book.
Preparing and maintaining the site	Plan site layout: machinery and dust causing activities should be located away from receptors.
	Erect solid screens or barriers around dust activities or the site boundary that are at least as high as any stockpiles on site.
	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
	Avoid site runoff of water or mud.
	Keep site fencing, barriers and scaffolding clean using wet methods.

TABLE 4.1: RECOMMENDED MITIGATION



Management Category	Mitigation Measure
Preparing and maintaining the site	Remove materials from site as soon as possible.
	Cover, seed or fence stockpiles to prevent wind whipping.
	Carry out regular dust soiling checks of buildings within 100 m of site boundary and cleaning to be provided if necessary (Desirable).
	Agree monitoring locations with the Local Authority.
	Where possible, commence baseline monitoring at least three months before phase begins (baseline monitoring period to be agreed with Camden Council).
	Put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly.
Operating vehicle/machinery and sustainable travel (for more information, please see section 4.2)	Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone.
	Ensure all non-road mobile machinery (NRMM) comply with the standards set within the Mayor of London's Dust and Emissions SPG [1].
	Ensure all vehicles switch off engines when stationary – no idling vehicles.
	Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where possible.
	Impose and signpost a maximum-speed-limit of 10 mph on surfaced haul routes and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate) (Desirable).
	Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
	Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
	Ensure an adequate water supply on the site for effective dust/particulate matter mitigation (using recycled water where possible).
	Use enclosed chutes, conveyors and covered skips.
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
	Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Waste Management	Reuse and recycle waste to reduce dust from waste materials
	Avoid bonfires and burning of waste materials.

TABLE 4.1: (CTD) RECOMMENDED MITIGATION



Management Category	Mitigation Measure
Measures Specific to Demolition	Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
	Ensure water suppression is used during demolition operations.
	Avoid explosive blasting, using appropriate manual or mechanical alternatives.
	Bag and remove any biological debris or damp down such material before demolition.
Measures Specific to Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces (Desirable).
	Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil (Desirable).
	Only remove secure covers in small areas during work and not all at once (Desirable).
Measures Specific to Construction	Avoid scabbling (roughening of concrete surfaces) if possible (Desirable).
	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery (Desirable).
	For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust (Desirable).
Measures Specific to Trackout	Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site (Desirable).
	Avoid dry sweeping of large areas (Desirable).
	Ensure vehicles entering and leaving sites are securely covered to prevent escape of materials during transport (Desirable).
	Record all inspections of haul routes and any subsequent action in a site log book (Desirable).
	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems and regularly cleaned (Desirable).
	Inspect haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable (Desirable).
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable) (Desirable).
	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits (Desirable).
	Access gates to be located at least 10 m from receptors where possible (Desirable).
	Apply dust suppressants to locations where a large volume of vehicles enter and exit the construction site (Desirable).

TABLE 4.1: (CTD) RECOMMENDED MITIGATION



4.2 Vehicle and NRMM Emissions

4.2.1 All on-road vehicles will comply with the requirements of the London Low Emission Zone, as per the Mayor's SPG [1] and CC's CPG [6], which controls NO_x from construction and demolition activities through an Ultra-Low Emissions Zone (ULEZ) for non-road mobile machinery (NRMM) of net power between 37kW and 560kW:

- *"NRMM used on the site of any major development within Greater London will be required to meet Stage IIIA of the Directive as a minimum; and*
- *"NRMM used on any site within the Central Activity Zone or Canary Wharf will be required to meet Stage IIIB of the Directive as a minimum."*

From September 2020, further controls will apply:

- *"NRMM used on any site within Greater London will be required to meet Stage IIIB of the Directive as a minimum.*
- *"NRMM used on any site within the Central Activity Zone or Canary Wharf will be required to meet Stage IV of the Directive as a minimum."*

4.2.2 As per the above, all NRMM within the construction site will meet Stage IIIB of the EU Directive 97/68/EC as a minimum. This applies to NRMM of net power between 37kW and 560kW.

4.2.3 Where compliance with Mayor's SPG requirements is not achievable or practical, an exemption will be sought from the Greater London Authority (GLA) and CC prior to the arrival of the equipment on site. An inventory of all NRMM must be registered on the NRMM register <https://nrmm.london/user-nrmm/register>. All NRMM will be regularly serviced, and service logs kept on site for inspection. An inventory of all NRMM on-site will be kept and maintained and evidence of NRMM and plant registration shall be available on-site in the event of Local Authority Inspection

4.2.4 NRMM under 37kW will be avoided through the use of mains power on site. In the event that NRMM is used, it will be kept as far away from sensitive receptors as practicable and retrofitting NRMM under 37kW with after treatment devices will be explored where practicable.

4.2.5 Mains and battery powered equipment will be used and petrol or diesel-powered equipment will only be used if mains or battery powered equipment is not available. Generators will not be used on site, since a mains power supply will be available throughout the construction period. Should generators be used, constant speed engines such as these will need to meet Stage V of the EU Directive.

4.2.6 Subcontractors will be required to comply with the use of Ultra-Low Emission Vehicles (ULEV) (e.g. non-diesel) where practicable.

4.2.7 Construction site workers will use sustainable means (public transport, cycling, walking, and car-sharing) to travel to site. The site is in a controlled parking zone and there will be no parking of contractors' vehicles on site or in the street except for deliveries which are expected to take place within designated loading bays authorised by CC. A Construction Logistics Plan will be produced to manage the delivery of goods and materials throughout the project duration.



4.3 Proposed Dust Monitoring

- 4.3.1 This section details the approach to be taken by the site operators to ensure that air quality and dust emissions are monitored and that any problems or complaints are dealt with in a satisfactory manner. It is recommended that monitoring commensurate to the level of risk is adopted.
- 4.3.2 Visual monitoring of dust is recommended throughout the works and supplemented by real-time particulate monitoring during the baseline and construction phase.

4.4 Monitoring: Visual Inspections

- 4.4.1 Daily visual inspections, both on- and off-site and up to 50 m along public highway haul routes, will be undertaken to ensure that the measures are effective at minimising off-site dust soiling. Surfaces which may display signs of dust soiling are buildings, cars, windowsills, lamp posts and other street furniture. All inspection results will be recorded in the site log.
- 4.4.2 These inspections will consider the level of dust soiling.
- 4.4.3 If significant visible dust soiling is observed along public highway haul routes, the frequency of cleaning mitigation measures (such as wet brushing and road sweeping) will be increased to daily. If settled dust or dust plumes from the site are observed off-site, a check of site activities will be undertaken to determine the likely source, and whether dust emissions are still being produced on site. If this is found to be the case, dusty activities will be halted until corrective actions are taken to prevent or minimise dust emissions. All observations will be recorded in the site logbook. Any photographic records taken will be kept, recorded and maintained alongside monitoring records.
- 4.4.4 If dust soiling is observed on a regular basis (three consecutive days), the cause of the soiling will be investigated. If the soiling is determined to be coming from the site, then mitigation measures within the AQDMP will be reassessed and updated accordingly to prevent further exceedances.
- 4.4.5 The results of these inspections will be recorded in the site log and sent to CC on request.
- 4.4.6 If a dust incident is noticed by site personnel during the soiling inspections of surrounding areas undertaken as part of the dust management plan, and it is determined that the incident is attributable to the worksite and requires further controls (within industry best practice limits), these will be implemented by the contractor and a report will be produced for inclusion within the log. A copy of the complaint log will be made available to CC on request.
- 4.4.7 There are no major off-site emission sources currently nearby. The potential cumulative impact of emissions from nearby development sites should be considered and managed. Particularly dusty activities will be coordinated with any nearby construction site to ensure dust and particulate emissions are minimised.

4.5 Monitoring: Real-time Particulate Monitoring

- 4.5.1 There is a 'Medium' risk of dust impacts during the demolition and construction phases of works, hence the requirement for two real-time particulate monitoring stations, as indicated in the Mayor of London's SPG [1] and the CPG for Air Quality [6]. The duration of the demolition phase is anticipated to last for approximately two weeks and therefore does not require real-time dust monitoring. As such, real-time dust monitoring is proposed only for the construction phase.



- 4.5.2 The proposed monitoring locations are shown in Figure A4 of Appendix A. Dust monitors are located at the site boundary at south-west corner and at the north-east site boundary corner, considering the location of nearby sensitive receptors and prevailing winds. The wind direction from Heathrow Airport over 2018 is shown in Figure A5. This shows a predominance of south-westerly winds, with north-easterly and westerly winds also occurring for a substantial proportion of time. Exact monitoring locations may be adjusted to account for practical issues which include the varying location of dust-generating activities, the need for monitoring locations to be unobstructed, the provision of access to the monitoring sites, equipment security and the availability of uninterrupted electrical power.
- 4.5.3 The proposed dust monitoring stations will be located in clear, unobstructed positions where inlets will be positioned away from obstacles as far as reasonably practicable, as per the Institute of Air Quality Management's (IAQM) '*Guidance on Monitoring in the Vicinity of Demolition and Constriction Sites*' [7]. Monitoring locations will be agreed with CC prior to commencement of works, as per the CPG.
- 4.5.4 Supplementary monitoring of weather conditions, including wind speed and wind direction, will be undertaken by the use of an anemometer attached to the dust monitor.
- 4.5.5 For 'Medium' risk sites, the Mayor of London's SPG recommends that, where possible, baseline monitoring is required at least three months prior to the commencement of demolition and construction activities. However, the guidance is clear that the Local Authority should advise as to the appropriate air quality monitoring procedure and timescale on a case-by-case basis. The CPG states that, prior to commencement, baseline monitoring would normally be required for at least six months (ideally 12 months). The requirement and duration of baseline monitoring should be discussed with CC before on-site works begin.
- 4.5.6 The monitoring locations will be reviewed throughout the project in response to periods of intense construction work or following receipt of concerns raised by nearby sensitive receptors.

QA/QC

- 4.5.7 Real-time airborne particulate monitoring units (or similar) are proposed. These monitors automatically measure particulates in real-time and can simultaneously monitor the concentrations of total suspended particles (TSP), PM₁₀, PM_{2.5} and PM₁.
- 4.5.8 Maintenance will be undertaken as per the manufacturer's guidelines, with the filters changed and flow rate calibrated at intervals of 3 months, and annual laboratory calibration against a reference instrument in accordance with the requirements of the manufacturer's specifications.
- 4.5.9 A real-time web-based system will automatically download the data from the units, and monitoring data will be remotely accessible to enable on-demand interrogation. The real-time units will be checked daily via the online system to ensure that the power supply is functioning, and the units are performing correctly. This will be carried out on site by the Site Manager or remotely by an Air Quality Specialist.

Alerts

- 4.5.10 A PM₁₀ Site Action Level (SAL) of 250 µg/m³ over a 15-minute mean will be implemented, as recommended in the London Plan SPG document. Based on previous correspondence with CC, an early warning alert of 187.5 µg/m³ 15-minute mean, (75% of the SAL) will be put in place to allow the Site Manager to initiate a check on site activities and to help the site management team in preventing a full exceedance of the SAL. Alert levels will be agreed with CC prior to the commencement of monitoring.



- 4.5.11 Instant email (or text) alerts will be sent to the Site Manager and relevant site personnel when the early-warning alert or SAL are exceeded. System checks will be completed on the first working day of the week to ensure the monitors are functioning correctly and logging accurate data. Where any equipment fault is detected, corrective actions will be identified and implemented, and data verification conducted where appropriate.
- 4.5.12 The Site Manager will be responsible for investigating and logging action taken in the event of PM₁₀ concentrations exceeding the site thresholds. If the SAL is exceeded during two consecutive 15-minute intervals, the following steps will be undertaken:
- the Site Manager will, as quickly as practicable, investigate activities on the site to ascertain whether any visible dust is emanating from the site and identify activities occurring without adequate dust control measures implemented. Site records for past activities will be reviewed where necessary. Weather conditions including precipitation, wind speed and wind direction will also be noted;
 - any identified causes will be rectified, where practicable. Actions will be recorded in the site logbook, which will be made available to CC on request;
 - if no source of the dust event is identified, other project sites and local authority monitoring sites will be contacted to investigate whether there is an increase in particulate concentrations in the wider area;
 - if the cause of the alert is not related to site operations, the outcome of any investigation will be recorded in the site logbook, which will be made available to CC on request; and
 - if necessary, following exceedances of the SAL, toolbox talks will be delivered to the site team to inform of causes of dust emissions, receptor locations and/or control measures that can be employed.

4.6 Reporting

- 4.6.1 Monitoring data from the dust monitoring units will be uploaded automatically onto the web-based system, downloaded, undergo data verification procedures, and reported on a monthly basis (within ten working days of period-end) following confirmation by the contractor's Air Quality Specialist. Monthly monitoring reports will be issued to the client and onto CC upon request.
- 4.6.2 Monthly monitoring reports will include mean concentrations, summary of alert level exceedances and data capture percentages for each period, and will provide explanations for any exceedances and data loss, as supplied by the Site Manager.

4.7 Complaints Procedure

- 4.7.1 The Site Manager will immediately investigate all dust complaints that are attributed to the worksite. All complaints received will be recorded in the complaint log, investigated and corrective actions implemented, and feedback given to the complainant. If it is determined that the complaint is valid or the incident is attributed to the worksite, then further controls (within industry best practice limits) will be implemented and a report will be produced for inclusion in the log.
- 4.7.2 Site staff will maintain a log of any complaints received, subsequent actions taken to investigate the complaint and any actions which have been put in place to rectify the situation, if found to be necessary. The incident and complaint reporting template, presented in Appendix B, will be used to record complaints and exceedances of the SAL and actions taken.



4.8 Roles and Responsibilities

4.8.1 It is recommended that appropriate resources be supplied to cover the dust mitigation requirements of the AQDMP and to ensure that the requirements are communicated effectively and acted upon in an appropriate manner. Recommended key roles and responsibilities relating to air quality are detailed below in Table 4.2.

4.8.2 The Site Manager should be confirmed prior to start of main site works.

Role	Responsibilities
Site Manager	Ensure that the mitigation and monitoring requirements laid out are carried out during works on site.
	Ensure that staff are aware of the mitigation and monitoring requirements and have access to this information. Regular training of staff should be implemented.
	Undertake and record dust inspections of the site as required.
	Ensure that site documentation (including method statements and risk assessments) includes dust mitigation.
	Act on complaints and dust alerts as required.
	Maintain up-to-date site logs of air quality events and complaints.
	Investigate the cause of air quality events and apply additional mitigation where required.
	Act as the key point of contact for queries and complaints regarding air quality emissions from site.
All Site Personnel	Carry out the works in line with requirements.
	Report observations of dust events or deviations from the requirements.
	Attend environmental management training.

TABLE 4.2: ROLES AND RESPONSIBILITIES



5. SUMMARY & CONCLUSIONS

- 5.1.1 A dust management plan has been prepared on behalf of Claritas Group to assess the risk of dust impacts associated with construction phase activities at Howitt Close in Belsize Park, Camden.
- 5.1.2 The outcome of the dust risk assessment presented in Section 3.9 shows that the risk of health effects is low or negligible and that the risk of dust soiling is low or medium. No ecological receptors in the vicinity of the proposed development have been identified.
- 5.1.3 It is recommended that baseline dust monitoring is undertaken prior to the commencement of any site activities, though Camden Council should advise on the requirement and duration of baseline monitoring on a case-by-case basis.
- 5.1.4 With the implementation of control measures described in this AQDMP, the potential for significant adverse air quality and dust related effects will be minimised.



6. REFERENCES

1. Mayor of London. 2014. The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance.
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3. Camden Council. 2020. Air Quality Annual Status Report 2019.
4. Department for Environment, Food and Rural Affairs. (Defra). Background mapping for local authorities. [online] <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>. Accessed March 2021.
5. British Geological Survey. 2017. Geology of Britain Viewer. Natural Environment Research Council. [online] <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>. Accessed March 2021.
6. Camden Council. January 2021. Camden Planning Guidance - Air Quality.
7. Institute of Air Quality Management. October 2018. Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (version 1.1).

APPENDIX A: FIGURES

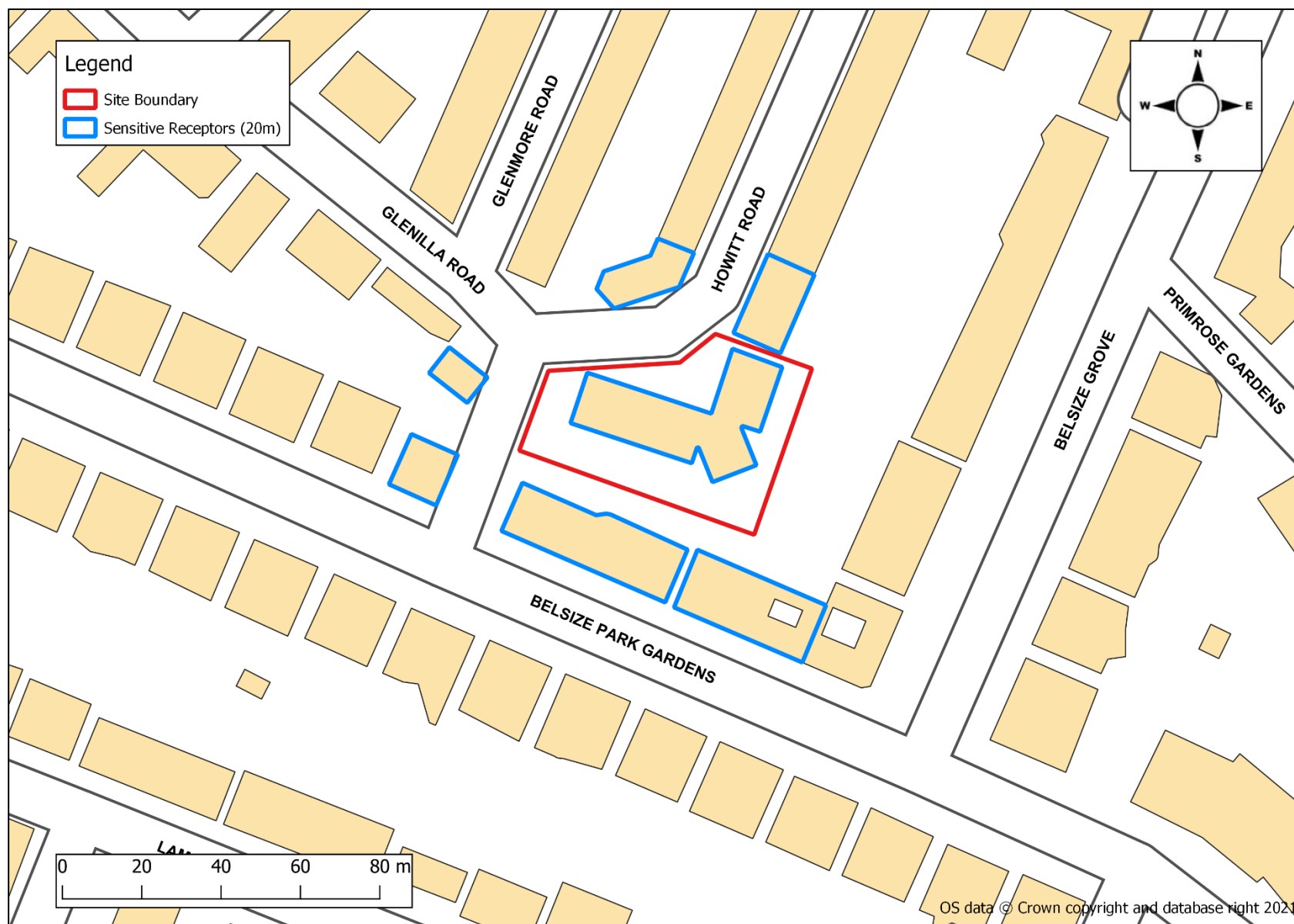


FIGURE A1: SITE LOCATION AND SENSITIVE RECEPTORS



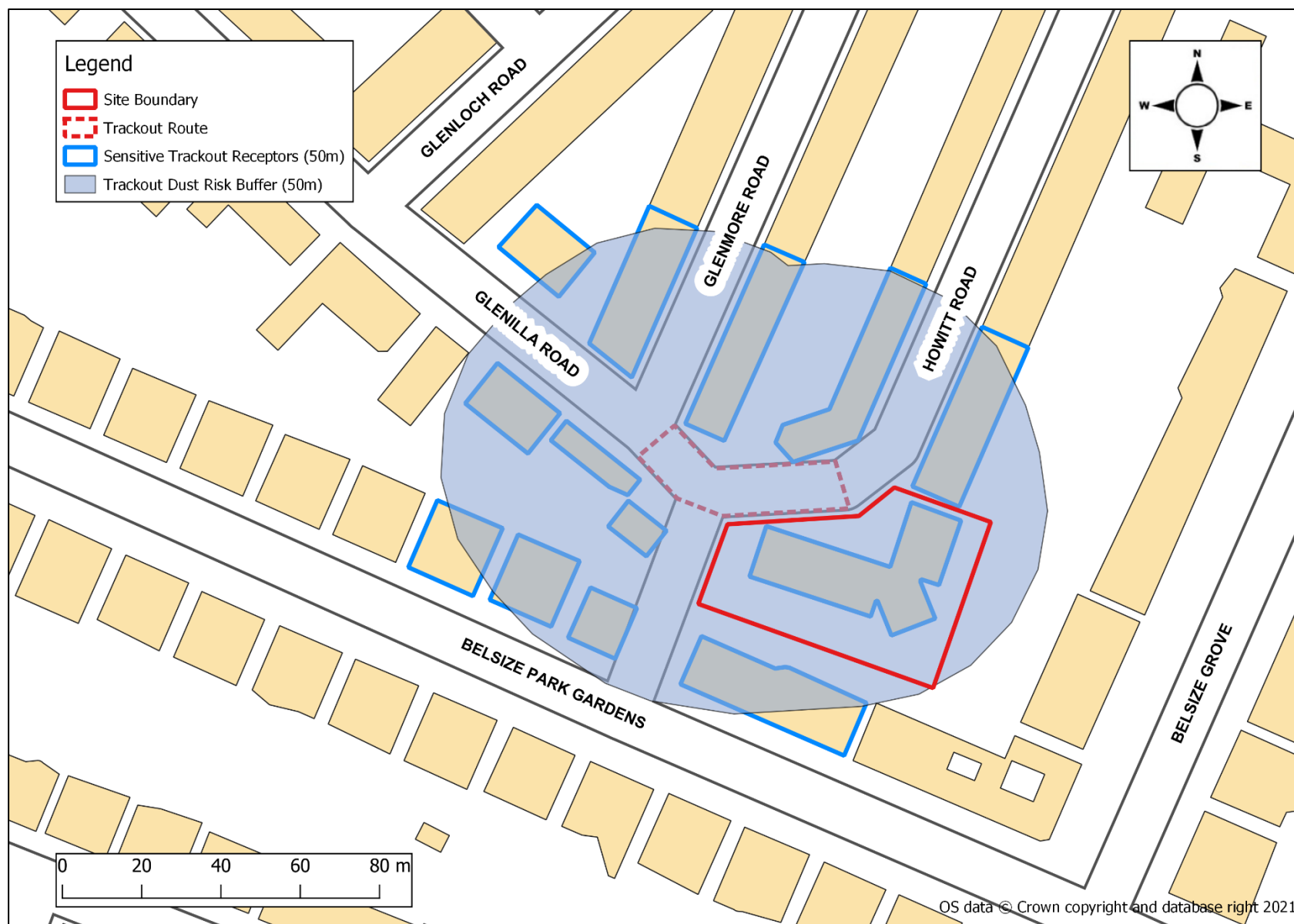


FIGURE A3: TRACKOUT DUST RISK BUFFER

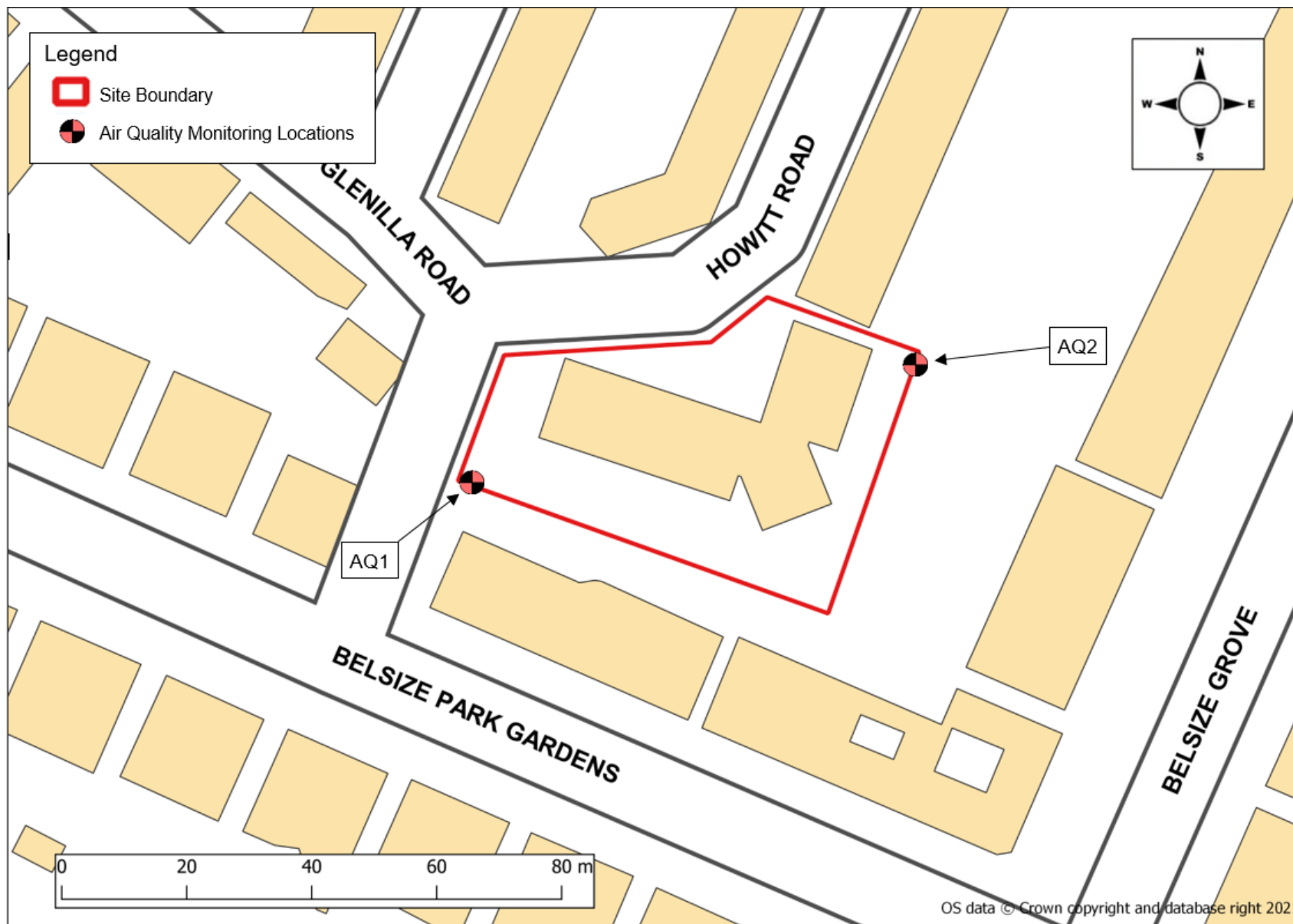


FIGURE A4: PROPOSED DUST MONITORING LOCATIONS

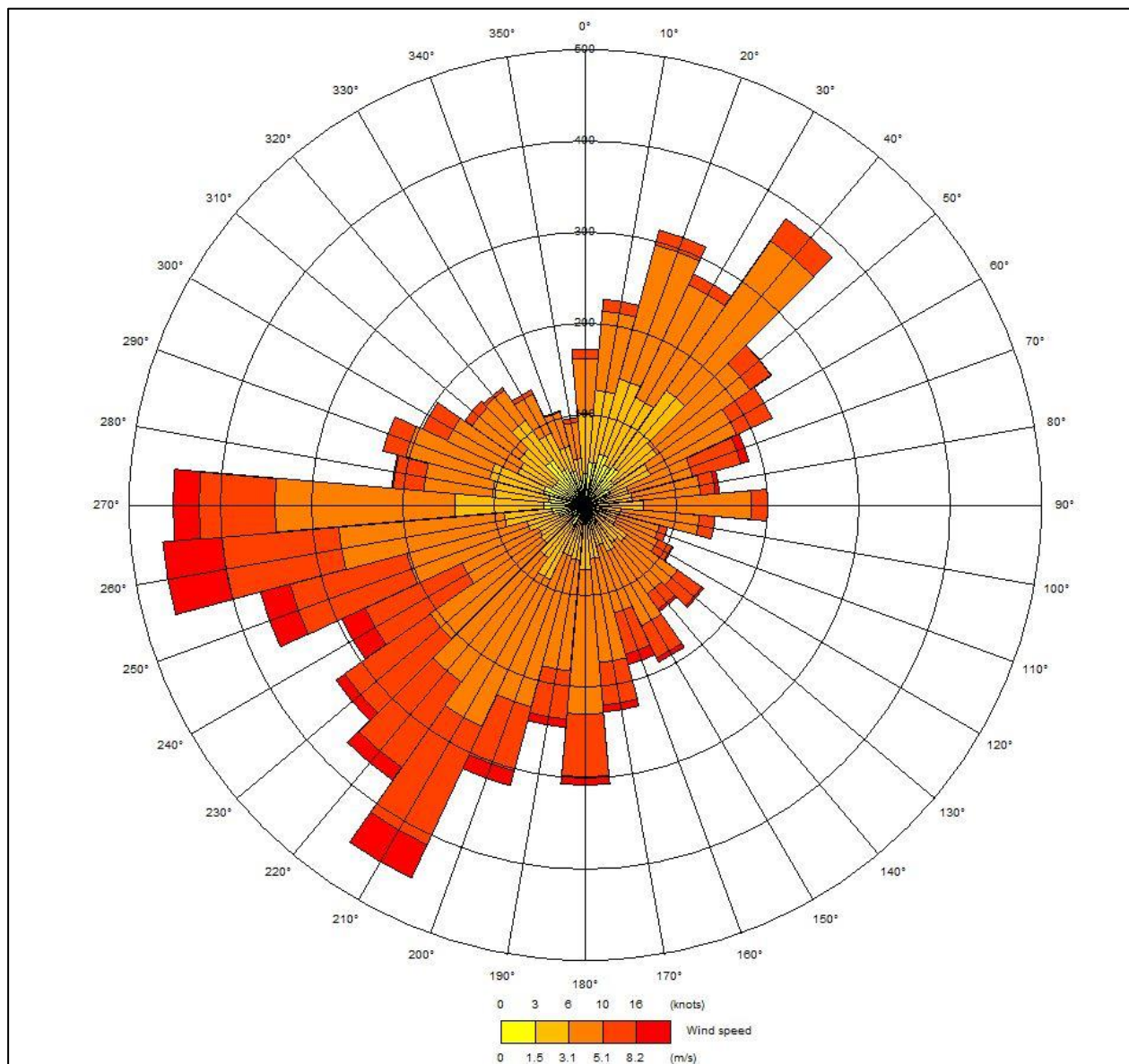


FIGURE A5: HEATHROW METEOROLOGICAL WIND DATA 2018

APPENDIX B: INCIDENT AND COMPLAINT REPORTING TEMPLATE

Site Exceedance, Dust Incident and Complaint Form					
Reference:		Date:		Time:	
Incident Type (select as appropriate):		DUST EXCEEDANCE / EVENT / COMPLAINT			
DUST					
Location:					
PM ₁₀ Alert Threshold: µg/m ³ 15 minute		250 µg/m ³			
Exceedance Level: µg/m ³ 15 minute		µg/m ³			
Visible Sign of Dust?		YES/NO			
DESCRIPTION OF INCIDENT/COMPLAINT:					
ACTION TAKEN:					
Report Filed By:				Date:	