



DUST MANAGEMENT PLAN

For

THE PORTAL, 158 VICTORIA ROAD, NORTH ACTON

Project Reference: ENV210-ACTO-002

Site Address: The Portal
158 Victoria Road
North Acton
W3 6EJ

Customer: C J O'Shea
Unit 1 Granard Business Centre
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Document Control

Publication Title ENV210-ACTO-002 – Dust Management Plan
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Preparation of this Dust Management Plan has been completed using information provided by C J O'Shea.

Principal Contractor: C J O'Shea

Date: April 2023

Prepared and Approved By:



Silvio Petrasso BSc (Hons), CMIOSH, MIOA, IMAPS, ACIEH
Managing Director

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Date 14 April 2023

Revision	Date	Description	Prepared	Approved
1.0	14-04-2023	FINAL	SP	SP

Declaration

The Developer will take all reasonable steps to ensure that:

- a) All waste from the site is dealt with in accordance with the waste duty of care in Section 34 of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations 1991; and
- b) Materials will be handled efficiently and waste managed appropriately.

Signature
 (Developer)

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Contents

1.	Introduction	6
2.	Site Location and Description	7
3.	Management Criteria	10
4.	Air Quality and Dust Risk Assessment.....	11
5.	Dust Management Plan	12
6.	Monitoring of Dust Mitigation Methods.....	13
7.	Community Liaison	15
8.	Vehicle Emissions	17
9.	Conclusion	18
10.	Appendices	19

Appendix 1. Glossary of Terminology

Appendix 2. Aether Air Quality Dust Management Plan

1. Introduction

1.1. General

Stansted Environmental Services Limited has been commissioned by C J O'Shea to prepare a Dust Management Plan (DMP) as supporting information to discharge a planning condition for their development known as The Portal, 18 Victoria Road, North Acton, W3 6EJ.

This DMP has been developed to risk assess the potential of airborne pollutants namely Nitrogen Oxide (NO_x) and Particulate Matter (PM_x), from construction operations, to construction workers and nearby offsite human and ecological receptors.

1.2. Planning Status

A draft Decision Notice has been issued by Ealing Council (Ref: 165514OPDFUL) for Redevelopment of the site to provide a single storey basement with a part 10, part 36 storey building comprising 350 residential units and ancillary facilities (Use Class C3) with a mix of studio, 1 bed, 2 bed and 3 bed flats and 503qm (GIA) of flexible use class E and/or Sui Generis (pub/wine bar/drinking establishment) and/or F1 and/or F2 floor space and a landscaped public realm, together with associated public and private amenity space, cycle parking, car parking, servicing, landscaping and other associated works.

This DMP has been prepared to address the requirements of Condition 4 relating to Air Quality and is as follows:

“Before the development is commenced, (including demolition and site clearance) an Air Quality and Dust Management Plan (AQDMP) that includes an Air Quality (Dust) Risk Assessment shall be produced in accordance with current guidance The Control of Dust and Emissions during Construction and Demolition, SPG, GLA, July 2014, for the existing site and the proposed development. A scheme for air pollution mitigation measures based on the findings of the report shall be submitted to and approved by the Local Planning Authority prior to the commencement of any works on the site.

Reason: To ensure that the amenity of occupiers of the co-living scheme and surrounding premises is not adversely affected by air pollution, in accordance with policies D6 and SI1 of the London Plan (2021); and 7A of the Ealing Development Management Plan (2013).”

1.3. Limitations

This report and its findings should be considered in relation to the terms and conditions proposed and the agreed scope of works between SES and the “Client” C J O'Shea.

The conclusions and recommendations contained within the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report and the proposed development.

Interpretations and recommendations contained within the report represent the professional opinion of SES and were arrived at in accordance with industry best practice guidance and current legislation at the time of writing.

2. Site Location and Description

2.1. Site Location

The proposed development is located at the junction of Vicotira Road and Wales Farm Road, Ealing and may be located by NGR TQ208818. The site location is shown in Figure 1.

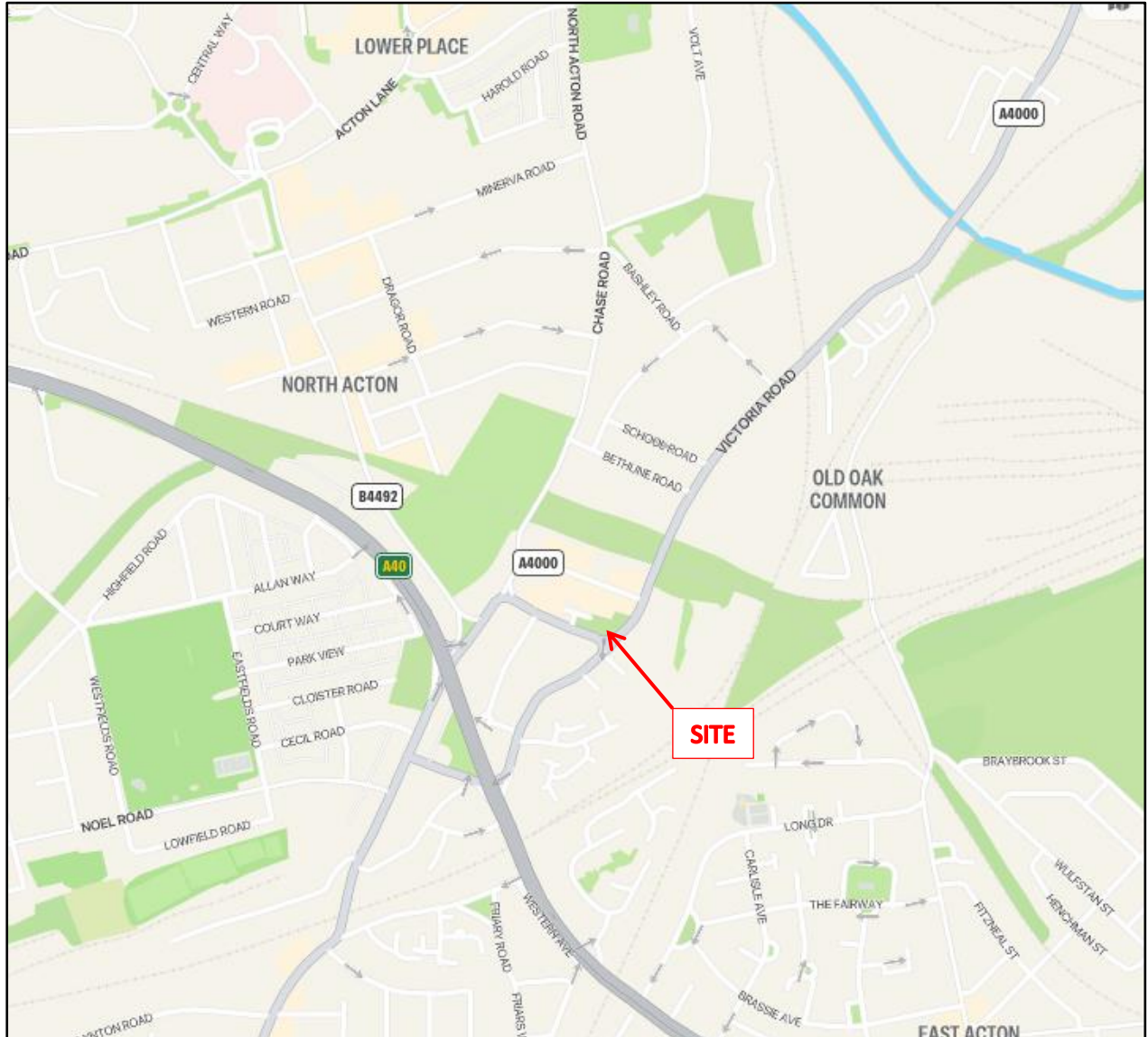


Figure 1: Site Location

2.2. Site Setting

The site is currently hoarded and overgrown with grass and shrubs which appear to have grown over a spoil heap.

Figure 2 overleaf depicts the Current Site Plan.



Figure 2: Current Site Plan

2.3. Proposed Scheme

As previously noted, a draft decision notice has been issued by Ealing Council for the redevelopment of the site to provide a single storey basement with a part 10, part 36 storey building comprising 350 residential units and ancillary facilities (Use Class C3) with a mix of studio, 1 bed, 2 bed and 3 bed flats and 503qm (GIA) of flexible use class E and/or Sui Generis (pub/wine bar/drinking establishment) and/or F1 and/or F2 floor space and a landscaped public realm, together with associated public and private amenity space, cycle parking, car parking, servicing, landscaping and other associated works

Figure 3 overleaf depicts the Proposed Site Plan.

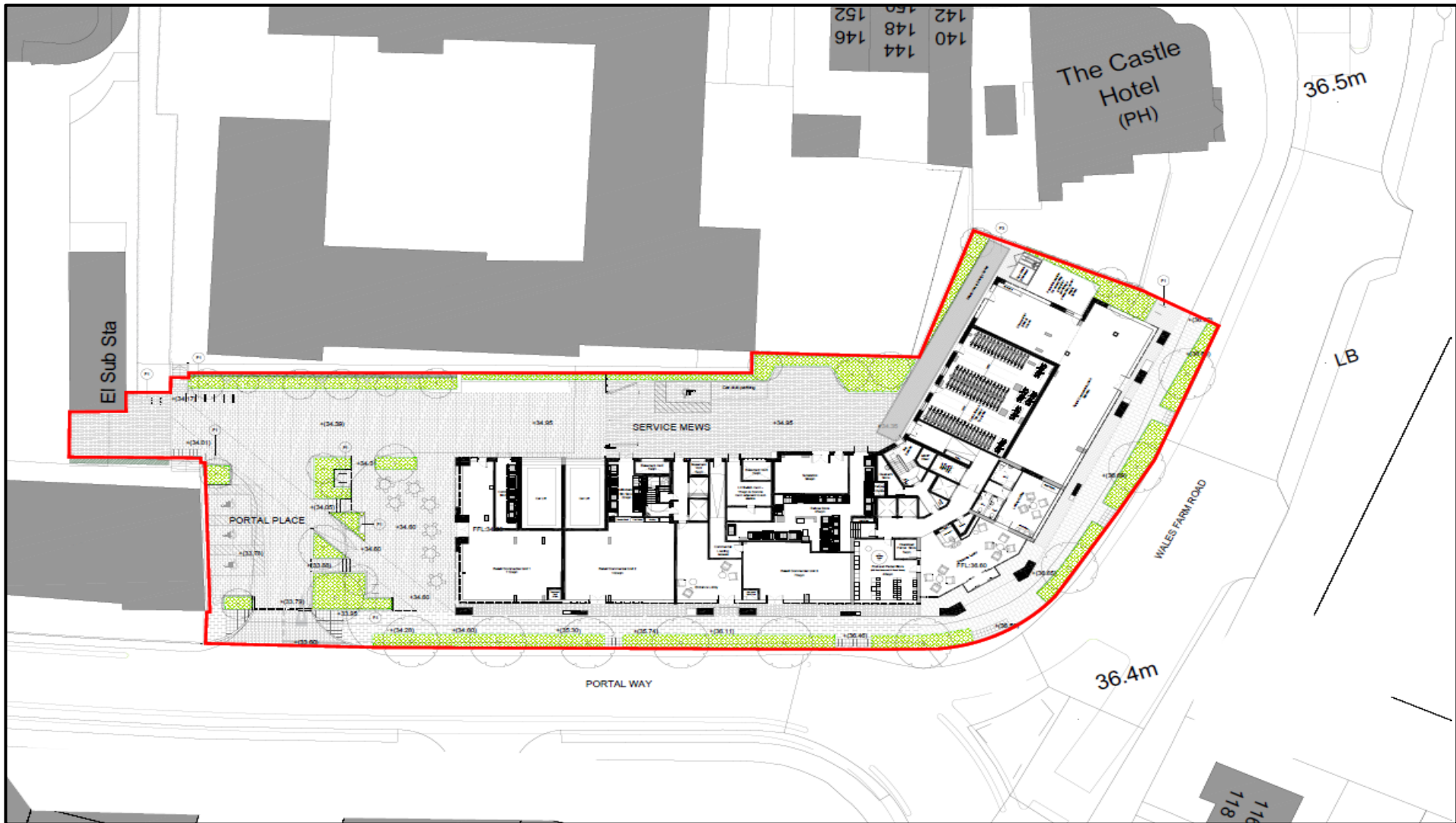


Figure 3: Proposed Site Layout

3. Management Criteria

3.1. Council’s Planning Guidance – “Ealing Council – Development Management, Development Plan Document adopted 10th December 2013”

Reference has been made to Policy 7A of the above mentioned Plan which is noted in Condition 4 of the draft Decision Notice.

Policy 7A specifically relates to the control of ‘emissions’ which typically include noise, vibration, particulate matter, odour, light and reflected light. The Policy also identifies sensitive uses that may be affected by these emissions which can include residential, schools, hospitals, public open space and nature sites.

3.2. IAQM Guidance on the Assessment of Dust from Demolition and Construction

This guidance contains a methodology for determining the significance of construction developments on local air quality using a simple four step process:

- STEP 1: Screen the requirement for a more detailed assessment
- STEP 2: Assess the risk of dust impacts
- STEP 3: Determine any required site-specific mitigation
- STEP 4: Define post mitigation effects and their significance

The risk of dust emissions from a demolition/ construction site causing loss of amenity and/ or ecological impacts is related to a number of factors, including: the activities being undertaken; the duration of these activities; the size of the site; the mitigation measures implemented and meteorological conditions. In addition, the proximity of receptors to the site and the sensitivity of these receptors to dust, impacts the level of risk from dust emissions. Receptors include both ‘human receptors’ and ‘ecological receptors’. The former refers to a location where a person or property may experience adverse effects for airborne dust or dust soiling, or exposure to PM10, over a time period relevant to the air quality objectives. Ecological receptors are defined as any sensitive habitat affected by dust soiling, through both direct and indirect effects. Following assessment of the impacts of dust as a result of the development, a qualitative risk impact level can be assigned, ranging from ‘negligible’ to ‘high risk’. Based on the designed risk impact level the appropriate mitigation measures can be determined, applicable to the site and measures specific to demolition, earthworks, construction and trackout.

3.3. IAQM Guidance on the Assessment of Dust from Demolition and Construction

A summary of the air quality objectives, as set out in the UK Air Quality Strategy (2007), is presented below.

Pollutant	Concentration	Measured as
Particulate Matter (PM10)	40 µg/m ³	Annual mean
	50 µg/m ³	24-hour mean
	200 µg/m ³	15-minute mean

Table 1: DEFRA UK Air Quality Objectives

3.4. Air Quality Management Area

London Borough of Ealing has declared an AQMA encompassing the complete borough. Management includes the monitoring of nitrogen dioxide and particulate matter.

Current management of air quality is covered under Ealing Council’s Air Quality Strategy 2022-2030.

3.5. The Control of Dust and Emissions during construction and demolition – SPG 2014

This supplementary planning guidance builds on voluntary guidance published in 2006. It incorporates more detailed practices published by the IAQM to create best practice guidance.

It seeks to reduce emissions of dust from construction and demolition activities in London. It also aims to manage emission of nitrogen oxides from construction and demolition machinery by means of a new non-road mobile machinery ultra-low emissions zone (ULEZ).

3.6. The Mayor of London’s Air Quality Strategy (2010)

The objective of the strategy is to significantly reduce NO₂ and PM₁₀ concentrations through a number of measures.

4. Air Quality and Dust Risk Assessment

4.1. General

Aether have prepared a Dust Risk Assessment for the development (Ref: AQ_assessment/2023/ThePortal) Air Quality Dust Management Plan, a copy of which can be found in Appendix 2.

The Aether report should be read in conjunction with this Dust Management Plan (DMP).

4.2. Findings

A summary of the potential risk of dust impacts prior to mitigation is presented in Table 2.

Source	Emission Magnitude	Human Health Risk	Dust Soiling Risk	Overall Risk
Demolition	Not applicable	Not applicable	Not applicable	Not applicable
Earthworks	Medium	Medium	Medium	Medium
Construction	Large	High	High	High
Trackout	Small	Low	Low	Low

Table 2: Risk of Dust Impacts Prior to Mitigation

The classification of the site has identified the development as ‘Medium Risk’ with respect to, earthworks and ‘High Risk’ for construction activities.

As such mitigation measures have been recommended in the following sections

5. Dust Management Plan

5.1. Demolition Phase Controls

- Not applicable as the site has no structures present.

5.2. Segregation and Diversion Targets

- Vehicle movements on site will be controlled by a site speed limit of 5mph
- Dust suppression netting (monaflex) to be used on areas of scaffolding
- Cutting of silica-based materials will be contained within enclosures with continuous dust suppression
- Welfare area to be swept to avoid a build of debris
- Exposed soils to be dampened down during dry weather periods
- Temporary hard standing (ideally asphalt) site haul/ tracking route to be put in place and routinely swept
- Wheels will be washed where required prior to vehicles leaving the site to limit trackout.
- Materials and waste to be covered to avoid airborne debris
- Ensure plant such as generator exhausts and flues do not point directly to the ground
- Burning of any material shall be strictly prohibited

5.3. Segregation and Diversion Targets

In the event of abnormal operation conditions such as a high and dry stockpile of fine material, dusty waste, spilt loads and complaints the following additional measures should be put in place:

- Ensure all wagons and stockpiled material are covered
- Stockpiled materials and waste to be piled no higher than the hoarding level
- Limit the quantities of dusty materials received
- Minimise handling and drop heights for waste
- Avoid idling mobile plant and ensure generator exhausts and flues do not point directly to the ground and/ or placed near sensitive receptors
- Put in place a robust Traffic Management Plan to avoid nearby sensitive receptors
- Wheel washing at entry and exit point of site
- Run-off from water suppression or wheel washing prohibited from entering local and/ or highway interceptors

6. Monitoring of Dust Mitigation Methods

6.1. General Mitigation Monitoring

The effectiveness of normal site operation dust mitigation measures is to be monitored by the site manager by on-going routine visual site checks and record actions taken in the site diary and more extensively through periods of abnormal operating conditions. The following table can be used as a guide.

Trigger	Mitigation Actions	Monitoring Actions
No triggers – Normal Site Operations	Daily inspections ensuring site surfaces are free from dust. Ensure all loose dry fine material including stockpiles are covered and or dampened down. Ensure dust screening enclosures and dust suppression is in place for cutting/ grinding activities. Ensure all vehicles comply to site speed limit and do not idle. Ensure all vehicles entering and leaving the site are sheeted and wheels are washed. Ensure a regimented wet clean of hoardings, fencing, barriers and scaffolding is in place and adhered to. Ensure a regimented wet sweeping of access and egress points is in place and adhered to.	Daily record of site inspections in the Site Diary including any mitigation actions taken, tool-box talks and risk assessment and method statement review
Inclement Weather Conditions	Ensure all normal operation mitigation actions have been completed. Additional action measures to include hosing of all incoming and outgoing vehicles and their loads (if dusty). Ensure during times of high blustery winds unloading of fine material is temporarily suspended.	Increase site inspections to hourly if required. Ensure all normal operation monitoring actions have been completed. Additional record of meteorological data and forecast required.
Dust Complaints Received	Ensure all normal operation mitigation actions have been completed. Additional mitigation actions include suspending dust emission activity until controls have been put in place and/or extensive dust suppression put in place across the site.	Increase site inspections to hourly if required. Ensure all normal operation monitoring actions have been completed. Additional record of meteorological data and forecast required; time and date of complaint; source of complaint; and corrective actions put in place.
Accidents (spills)	Ensure all normal operations mitigation actions have been completed and appropriate spill clean-up and containment materials are available at strategic locations across the site. Enforce exclusion zone and ensure spillage is swept/ cleared/ hosed down immediately. Ensure procedure is reviewed and remedial procedures put in place if required.	Daily record of site inspections in the Site Diary including any mitigation actions taken, tool-box talks and RAMS review Additional record of near miss, notification to HSE and/ or Environment Agency if applicable

Table 3: General Mitigation Action Plan

6.2. Additional Monitoring

Due to the High Risk rating of the site associated with an elevated risk of dust soiling, it is advised that continuous monitoring of PM10 is carried out during the enabling works and construction phase of the development for a period of 12 months.

Two MCERTs accredited dust monitoring stations are proposed to be fitted to the hoarding on the northern and western boundary of the site to take into account the nearest sensitive receptors. This will need to be agreed with the LPA Air Quality Officer.

The continuous monitors will allow for accurate real-time 15-minute logs of airborne PM10 to allow site to comply with generically adopted Air Quality trigger levels; 'amber' 150µg/m³ and 'red' 250µg/m³ alerts along with a 24-hour 250µg/m³ limit.

With this system the site management team will receive automatic email alerts so that when dust level trigger levels are breached, action can be taken in accordance with Section 7.1. This also allows for a full investigation of events which can be included in monthly reports.

On completion of the 12-month real-time continuous monitoring, daily visual audits by the site management team must continue and records kept in the site diary.

In the event of a complaint, SES can attend the site and undertake monitoring using an instantaneous handheld dust monitor such as a Casella Microdust Pro or similar.

6.3. Quality Control and Quality Assurance

The proposed dust monitoring stations will be installed in accordance with European Directive 2008/50/EC and as follows:

- The flow around the inlet sampling probe shall be unrestricted with free in an arc of at least 270°
- No obstructions affecting the airflow in the vicinity of the sampler and at least 0.5m from the nearest façade
- The inlet sampling point shall be between 1.5m and 4m above the ground level within the breathing zone

To comply with Quality Control guidelines, only the use of MCERTs accredited continuous monitors are advised. The monitor must have been laboratory calibrated within the last two years and be field calibrated and serviced monthly, during the monitoring period. Reference to the closest LPA managed monitoring station is advised during field calibration and at time of high ambient dust levels, i.e. from long distance wind-blown pollution.

7. Community Liaison

7.1. Community Engagement Officer

The client will appoint an identified contact who will be responsible for fulfilling the role of Community Engagement Officer for the development as a whole. Their responsibilities will include the following:

- Recording and responding to enquiries or complaints from the local community, including businesses and general public
- Communicating to the local community and businesses, the nature of the construction work that will be carried out
- Communicating the programme of works to the local community and business, specifically highlighting any work that may result in complaints.
- Establishing and maintaining good open relationships with local stakeholder groups

7.2. Complaints Procedure

The Community Engagement Officer will inform stakeholders of the complaints procedure as part of the communication programme. The complaints procedure should include the following:

- Publication of the contact details for all relevant contacts (including SES if appointed to carry out monitoring), including their telephone and email contact details
- Implementation and maintenance of complaints register with records all communications received from the general public or stakeholders
- Classification of the nature of each communication by complaint, enquiry or comment
- If a communication requires action the Community Engagement Officer will assign the task to a member of the Site Management Team
- Ensure completion of actions and ensure the complaints register is updated with a record of all actions and outcomes.
- If complaint continues to be unresolved, it is advised contact is made with SES to arrange additional monitoring.

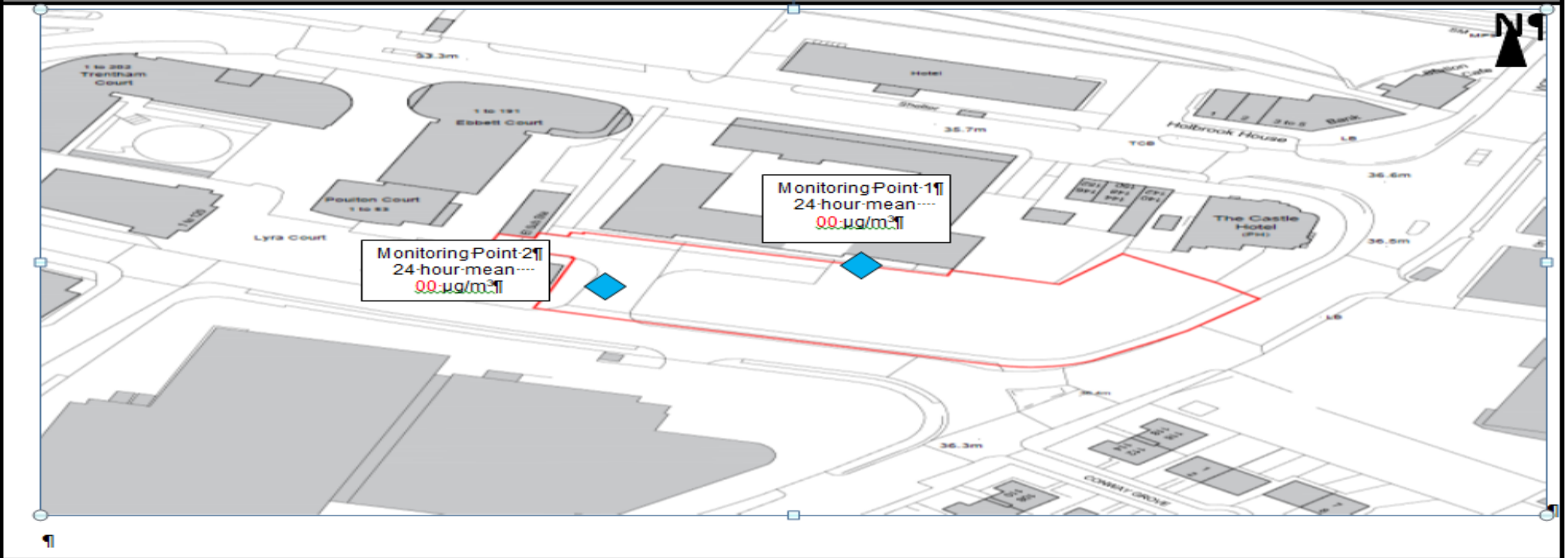
It is the responsibility of the Project/Site Manager that all site staff including sub-contractors shall be provided with an appropriate induction and on-going tool box talks regarding management of environmental issues.

Figure 4 overleaf identifies the proposed dust monitoring location points.

ENV210-ACTO-002; The Portal, North Acton - PM₁₀ Dust Monitoring

Weather Conditions: 00°C, Wind 0-0.0 m/s, 00% Humidity, 00% Cloud Cover, Pressure 0000.0 mbar Visit Date: 00/00/0000

 Equipment: Aeroqual Dust Sentry Last Calibrated: 00/00/0000 Carried out by Hugo Evans



Legend: - - - - indicates site boundary ◆ indicates fixed monitoring location → → ¶

Comments → → Has the 200µg/m³ threshold been exceeded at any of the monitoring locations? → → NO ¶

 What works were being carried out that caused the exceedance? → → N/A ¶

 If the threshold has been exceeded, who was informed and what action has been taken? → → N/A ¶

Figure 4: Proposed Dust Monitoring Location Plan

8. Vehicle Emissions

8.1. Background

From the 1st September 2015, construction equipment used on the site of any major development within Greater London has been required to meet the EU Stage IIIA as a minimum; and construction equipment used on any site within the Central Activity Zone or Canary Wharf has been required to meet the EU Stage IIIB standard as a minimum. This has now become more stringent with the introduction of EU Stage IV and the Ultra Low Emission Zone (ULEZ) within Central London which was introduced on the 8th April 2019 which has subsequently been expanded.

8.2. Site Requirements

Although the site does not operate within Central London it does operate within Greater London and as such, prior to construction movements commencing, the client and their subcontractors are to register any Non-Road Mobile Machinery (NRMM) of net power between 37kW and 560kW at www.nrmm.london to help monitor the use of such equipment across London. NRMM used on the site shall meet with EU Directive 97/68/EC as above mentioned in Section 9.1.

To avoid unnecessary degradation of air quality on and surrounding the site the following measures are recommended:

- No idling when plant/ vehicles are stationary
- Avoid use of diesel or petrol powered generators if a temporary building supply (TBS) is available
- If a TBS is not available a specific risk assessment should be carried out to distinguish whether alternative methods (such as battery, solar or wind) are practicable.

9. Conclusion

Stansted Environmental Services Ltd (SES) has been commissioned by C J O'Shea (the Client), to prepare a Dust Management Plan (DMP) for the development know as The Portal, 158 Victoria Road, North Acton, W3 6EJ.

The proposed scheme involves the redevelopment of the site to provide a single storey basement with a part 10, part 36 storey building comprising 350 residential units and ancillary facilities (Use Class C3) with a mix of studio, 1 bed, 2 bed and 3 bed flats and 503qm (GIA) of flexible use class E and/or Sui Generis (pub/wine bar/drinking establishment) and/or F1 and/or F2 floorspace and a landscaped public realm, together with associated public and private amenity space, cycle parking, car parking, servicing, landscaping and other associated works.

A potential dust emission magnitude of 'Medium' has been assessed for the earthworks phase and 'High' for the construction phases of the development.

In order to reduce the overall risk rating site-specific mitigation and control measures have been recommended.

It has been advised that continuous real-time PM10 monitoring is carried out during the, enabling and construction phases of the project for a period of 12 months. This would involve the setting up a of two MCERTs accredited dust monitoring stations on the northern and western boundary of the site. With this method all stakeholders can remain informed in real-time. This would be in addition to regimented daily site inspections.

On completion of the 12-month continuous monitoring daily site audits by the site management team must continue, to ensure the site adheres to the mitigation advised in this report. To assist with the site management team in the event of a complaint received SES can attend the site and undertake monitoring using an instantaneous handheld dust monitor such as a Casella Microdust Pro or similar.

This DMP is considered sufficient to recommend the discharge of Planning Condition 4 of Planning Permission 165514OPDFUL issued by the London Borough of Ealing Council relating to Air Quality and Dust Management.

10. Appendices

Appendix 1. Glossary of Terminology

Appendix 2. Aether Air Quality Dust Management Plan

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Appendix 1. Glossary of Terminology

Dust

Dust is defined as airborne particulate matter. Particulate matter is a term used to describe all suspended solid matter, sometimes referred to as Total Suspended particulate (TSP). Sources of particles in the air include road transport, wind-blown fine soils and debris and unprotected excavated material. Particulate matter with an aerodynamic diameter of less than 10µm is the subject of health concerns because of its ability to penetrate deep within the lungs and is known in its abbreviated form as PM10.

Terminology

AQMA	Air Quality Management Area
DMP	Dust Management Plan
Dust Soiling	The act of contaminating or polluting with dust particles
µg/m ³	Micrograms per cubic metre
NO _x	Nitrogen oxides (taken to be NO ₂ + NO)
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations
PM ₁₀	Particulate matter with an aerodynamic diameter less than 10 micrometres
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
Trackout	The transport of dust and debris from the construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy goods vehicles (HGVs) leave the construction / demolition site with dusty materials, which may then spill onto the road, and/or when HGVs transfer dust and debris onto the road having travelled over muddy ground on site

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Appendix 2. Aether Air Quality Dust Management Plan

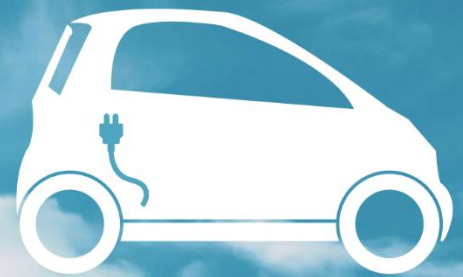
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**Air Quality Dust
Management Plan for The
Portal, North Acton**

Report to O'Shea

April 2023



Title	Air Quality Dust Management Plan for The Portal, North Acton
Customer	O'Shea
Recipient	Stansted Environmental Services
Report Reference	AQ_assessment/2023/ThePortal
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Contents

1	Introduction	1
1.1	The Location of the Development.....	1
1.2	Assessment Criteria	2
1.3	Local Air Quality Management	3
1.4	Local Pollutant Concentrations.....	3
1.4.1	Local monitoring data.....	3
1.4.2	Background mapped data.....	4
2	Construction Dust Risk Assessment	4
3	Dust Control Measures	8
4	Monitoring Strategy.....	10
5	NRMM.....	10
6	Roles and Responsibilities.....	11
7	Summary and Conclusions	11

1 Introduction

Aether has been commissioned by O’Shea to produce an Air Quality Dust Management Plan (AQDMP) for the proposed development (The Portal) at Gypsy Corner, North Acton. The proposed scheme comprises of the redevelopment of the site to provide a single storey basement with a part 10, part 36 storey building comprising 350 residential units and ancillary facilities (Use Class C3) with a mix of studio, 1 bed, 2 bed and 3 bed flats and 503qm (GIA) of flexible use class E and/or F1 and/or F2 floorspace and a landscaped public realm, together with associated public and private amenity space, cycle parking, car parking, servicing, landscaping and other associated works.

The proposed construction programme is outlined in **Table 1**.

Table 1: Construction Programme

Month	Construction Stage
0-2	Site Clearance
3-6	Piling & Excavations
7-36	RC Structure
16-38	Cladding & Fit out
36-40	Landscaping

The development falls within the London Borough of Ealing, which suffers from elevated levels of air pollution, primarily due to high levels of traffic. A dust risk assessment is required to identify potential impacts from earthworks, construction and trackout and recommend mitigation measures, where appropriate. Section 1 provides some background information on air quality near to the development site and Section 2 presents the dust risk assessment and Section 3, the recommended mitigation measures. A monitoring strategy is outlined in Section 4 and Section 5 gives consideration to the Non Road Mobile Machinery (NRMM) standards required for developments within London that are applicable to this development.

1.1 The Location of the Development

The proposed development is located at the junction of Victoria Road with Wales Farm Road, in Ealing (**Figure 1**).

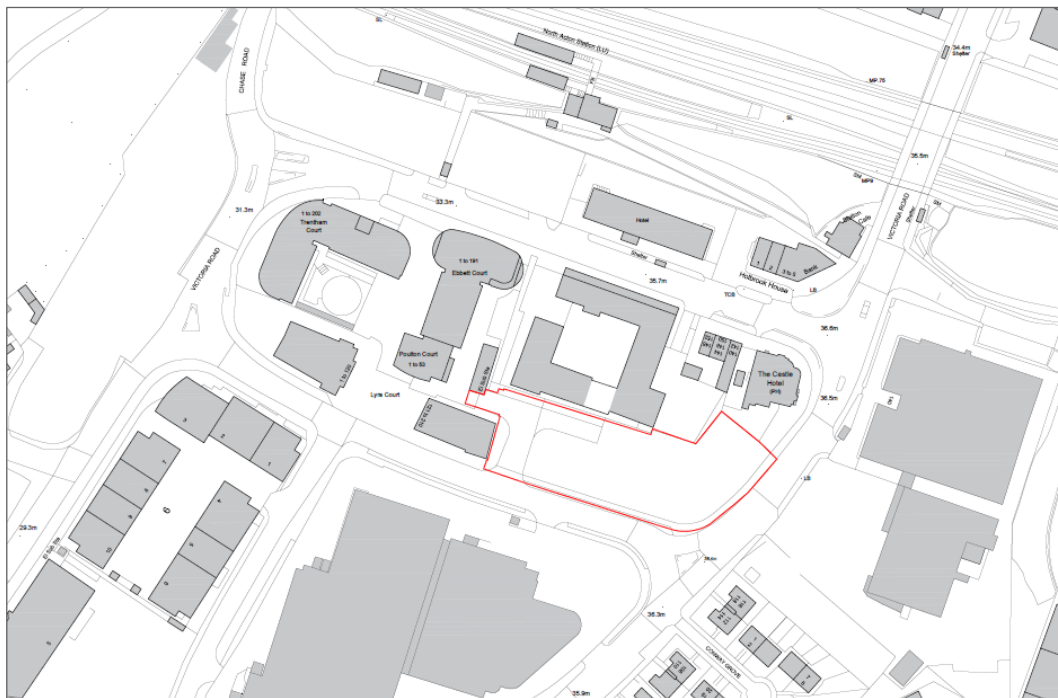


Figure 1: Location of the development site

1.2 Assessment Criteria

A summary of the air quality objectives relevant to the development, as set out in the UK Air Quality Strategy¹, is presented in **Table 2** below.

Table 2: UK Air Quality Objectives for PM₁₀

Pollutant	Concentration	Measured as
Particulate Matter (PM ₁₀)	40 µg/m ³	Annual mean
	50 µg/m ³	24 hour mean not to be exceeded more than 35 times a year (90.4th percentile)

Particulate matter is a term used to describe all suspended solid matter, sometimes referred to as Total Suspended Particulate matter (TSP). Sources of particles in the air include road transport, power stations, quarrying, mining and agriculture. Chemical processes in the atmosphere can also lead to the formation of particles. Particulate matter with an aerodynamic diameter of less than 10 µm is the subject of health concerns because of its ability to penetrate deep within the lungs and is known in its abbreviated form as PM₁₀.

A growing body of research has also pointed towards the smaller particles as a metric more closely associated with adverse health impacts. In particular, particulate matter with an aerodynamic diameter of less than 2.5 micrometres, known as PM_{2.5}. Local Authorities in England have a flexible role² in working towards reducing emissions and

¹ The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland. https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update.pdf

² <https://laqm.defra.gov.uk/air-quality/featured/uk-regions-exc-london-technical-guidance/> LAQM TG(22) – paragraph 1.14 and 1.15

concentrations of PM_{2.5} as there is no specific objective for them. However, on the 31st January 2023 the Government published an Environmental Improvement Plan³ which includes a legally binding Annual Mean Concentration Target (AMCT) of 10 µg/m³, to be achieved by 2040. The Plan also includes an interim target of 12 µg/m³ to be achieved by the end of January 2028.

Further information on the health effects of air pollution can be found in the reports produced by the Committee on the Medical Effects of Air Pollutants⁴.

As defined by the regulations, the air quality objectives for the protection of human health are applicable:

- Outside of buildings or other natural or man-made structures above or below ground.
- Where members of the public are regularly present.

1.3 Local Air Quality Management

Local authorities are required to periodically review and assess the current and future quality of air in their areas. Where it is determined that an air quality objective is not likely to be met, the authority must designate an Air Quality Management Area (AQMA) and produce an Air Quality Action Plan (AQAP).

The London Borough of Ealing has declared an AQMA covering the whole borough due to exceedences of the annual mean nitrogen dioxide (NO₂) and daily mean particulate matter (PM₁₀) objectives. The proposed development site is therefore located in an AQMA. An AQAP⁵ was published in 2017, which includes some specific measures such as enforcing air quality neutral policies and encouraging green infrastructure.

1.4 Local Pollutant Concentrations

This section provides an overview of the local data available to give an indication of current particulate concentrations in proximity of the development site.

1.4.1 Local monitoring data

The London Borough of Ealing has five automatic monitors that measure PM₁₀ concentrations. The nearest monitoring location to the proposed development is a roadside site on Western Avenue, approximately 450m west of the site. Details of this monitoring site are presented in **Table 3**.

Table 3: Particulate Monitoring sites within 500m of the development

Site Name	Site Type	Pollutant	Grid Reference	Distance to Kerb (m)	Approx. Distance to development site (m)
E11 Western Avenue*	R	PM ₁₀	520430, 181950	4	450

Note: R = roadside, * automatic monitor

³ Environmental Improvement Plan 2023, Defra, 2023

⁴ <https://www.gov.uk/government/collections/comeap-reports>

⁵ https://www.ealing.gov.uk/downloads/download/456/air_quality_action_plan

Monitoring results for 2017 to 2019 have been taken from the Council's latest Annual Status Report (ASR)⁶ and are presented in **Table 4**. Data for 2020 and 2021 has not been considered due to the influence of the Covid-19 pandemic lockdowns on traffic levels.

Annual mean PM₁₀ concentrations measured over the three year period are well below the air quality objective of 40 µg/m³. Exceedences of the daily PM₁₀ objective have been recorded; however, 35 exceedences are allowed per year and therefore the daily objective was met.

Table 4: Particulate Monitoring Data for Western Avenue, 2017-2019

Objective	Site Name	2017	2018	2019
Annual mean PM ₁₀ (µg/m ³)	E11 Western Avenue*	26	28	26
Daily mean PM ₁₀ (no. exceedances)	E11 Western Avenue*	9	14	21

*Values exceeding the 40 µg/m³ annual mean objective are shown in bold. * automatic monitor*

1.4.2 Background mapped data

Background pollutant concentration maps are available from the Defra LAQM website⁷ and data has been extracted for Ealing for this assessment. These 2018 baseline, 1 kilometre grid resolution maps are derived from a complex modelling exercise that takes into account emissions inventories and measurements of ambient air pollution from both automated and non-automated sites. The projections in the 2018 LAQM background maps are based on assumptions which were current before the Covid-19 outbreak in the UK. In consequence these maps do not reflect short or longer term impacts on emissions in 2020 and beyond resulting from behavioural change during the national or local lockdowns.

The maximum 2019 (most recent pre-pandemic year) mapped background PM₁₀ concentration within 350m of the site is 19.8 µg/m³.

2 Construction Dust Risk Assessment

Emissions and dust from the construction phase of a development can have a significant impact on local air quality. The Institute of Air Quality Management's (IAQM) Guidance on the Assessment of Dust from Demolition and Construction⁸ contains a methodology for determining the significance of construction developments on local air quality. The assessment presented below has been produced in accordance with these guidelines.

The main air quality impacts that may arise during demolition and construction activities are:

- Dust deposition, resulting in the soiling of surfaces.
- Visible dust plumes, which are evidence of dust emissions.
- Elevated PM₁₀ concentrations, as a result of dust generating activities on site

⁶ https://www.ealing.gov.uk/downloads/download/5860/air_quality_status_report

⁷ <http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html>

⁸ <http://iaqm.co.uk/guidance/>

- An increase in concentrations of airborne particles and nitrogen dioxide due to exhaust emissions from diesel powered vehicles and equipment used on site (non-road mobile machinery) and vehicles accessing the site.

The risk of dust emissions from a demolition/construction site causing loss of amenity and/or ecological impacts is related to a number of factors, including: the activities being undertaken; the duration of these activities; the size of the site; the mitigation measures implemented and meteorological conditions. In addition, the proximity of receptors to the site and the sensitivity of these receptors to dust, impacts the level of risk from dust emissions. Receptors include both 'human receptors' and 'ecological receptors'. The former refers to a location where a person or property may experience adverse effects for airborne dust or dust soiling, or exposure to PM₁₀, over a time period relevant to the air quality objectives (see **Table 2**). Ecological receptors are defined as any sensitive habitat affected by dust soiling, through both direct and indirect effects. Details of the assessment procedure in accordance with the IAQM guidance, and the results of the demolition and construction management plan are detailed below.

STEP 1: Screen the requirement for a more detailed assessment

Figure 2 identifies receptors within 20m, 50m, 100m, 200m and 350m of the boundary of the proposed development.

There are existing multi-storey residential blocks within 20m of the development site boundary, to the north and west. Consequently, a detailed assessment of potential dust impacts is required. There are no significant ecological receptors identified within 50m of the development site.

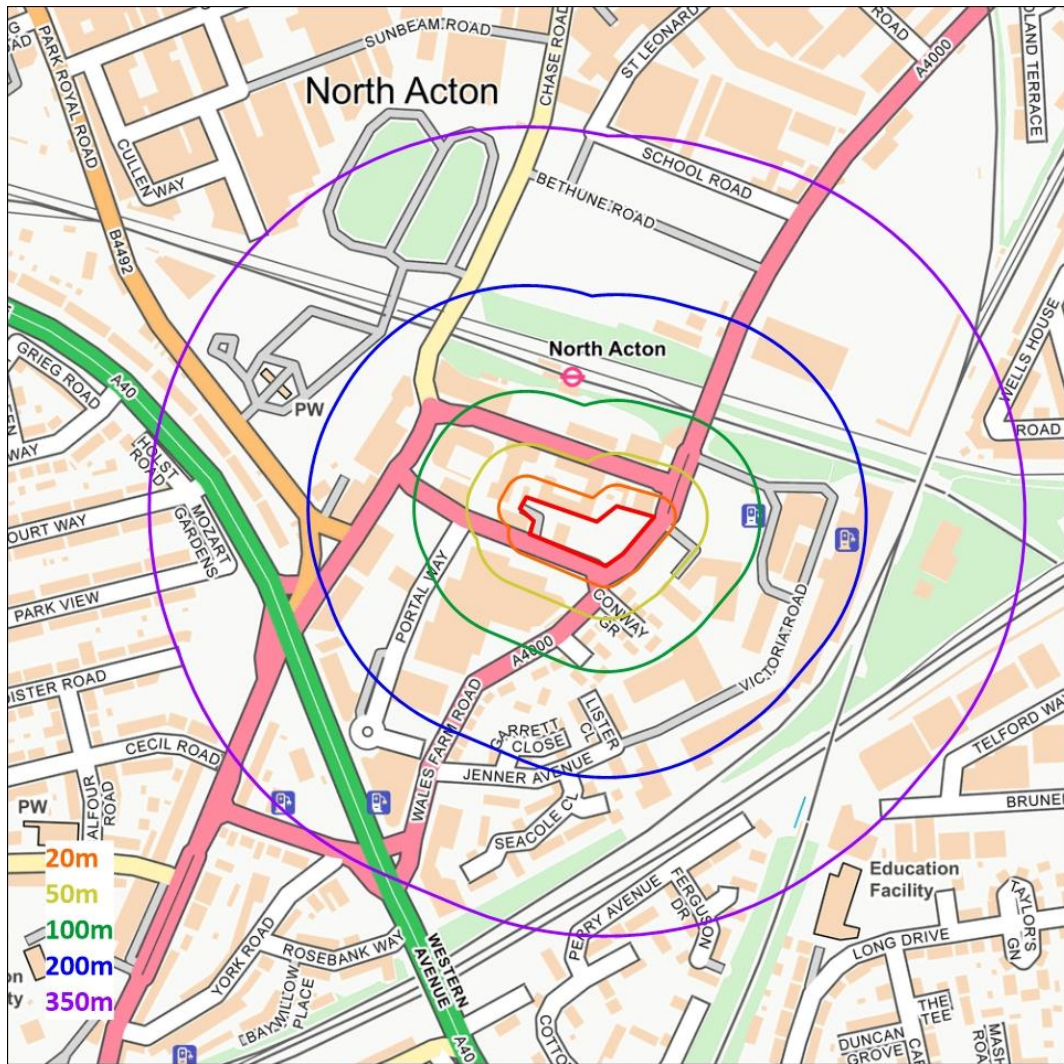


Figure 2: The location of the proposed development site and potential receptors within 20m, 50m, 100m, 200m and 350m. The development site is outlined in red.

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STEP 2: Assess the risk of dust impacts

The risk of dust arising in sufficient quantities to cause annoyance and/or health and/or ecological impacts has been determined using the following risk factors: negligible, low, medium and high risk. The allocated risk category is based upon two factors, the scale and nature of the works (**Table 5**) and the sensitivity of the area to dust impacts (**Table 6**).

Due to the potentially dusty soil type and the significant size of the new building, the dust emission magnitude of the earthworks and construction phases are categorised as **“Medium”** and **“Large”** respectively. However, the dust emission magnitude of the trackout phase is categorised as **“Small”**, since there will be limited access to unmade ground.

Residential dwellings are “high” sensitivity receptors, and due to the close proximity of a large number of existing dwellings to the site boundary, the sensitivity of the area to dust soiling impacts is categorised as **“High”**.

The 2019 mapped background concentration of PM₁₀ is 19.8 µg/m³, however there are a number of busy roads in the area and the concentration at the site and nearby receptors is likely to be somewhat higher than the background level. Based on the particulate data from Western Avenue air quality monitoring station it has been assumed that existing PM₁₀ concentration at receptor locations is in the range 24-28 µg/m³. Consequently, the sensitivity of the area to health impacts is also categorised as “High”.

The ecological sensitivity of the area is defined as “Low” as there are no designated sites within 50m of the development site.

These factors are then combined to determine the risk of dust impacts with no mitigation applied. The results are summarised in **Table 7**. As described in Step 1, the number of human and ecological receptors near to the development have been considered.

Table 5: Dust Emission Magnitude

Activity	Dust Emission Magnitude	Justification
Demolition	n/a	No demolition works are required.
Earthworks	Medium	The total site area is relatively small (3,700 m ²); however, the soil type (clay strata) is potentially dusty. The total material moved is expected to be less than 2000 tonnes and only one earth moving vehicle will be in operation on site.
Construction	Large	The volume of the new building is over 100,000 m ³ and piling will be undertaken. There will be no concrete batching or sandblasting on site.
Trackout	Small	The development will take place on an urban site with existing paved road access. A maximum of 10 outward HGV trips will be generated per day

Table 6: Defining the sensitivity of the area

Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	n/a	High	High	High
Human Health	n/a	High	High	High
Ecological	n/a	Low	Low	Low

Table 7: Summary of the dust risk impacts for the proposed development

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	n/a	Medium	High	Low
Human Health	n/a	Medium	High	Low
Ecological	n/a	Low	Low	Negligible

3 Dust Control Measures

Step 2 identifies that the development is a “**Low Risk Site**” with respect to trackout, “**Medium Risk Site**” with respect to earthworks and “**High Risk**” during construction. Following best practice measures will help to reduce the impact of the construction activities to an acceptable level.

In accordance with the IAQM guidance, the following mitigation measures are ‘highly recommended’, based on the assessed risk of impacts (**Table 7**):

Communications

- Develop and implement a stakeholder communication plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary.
- Display the head or regional office contact information.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. Make the complaints log available to the local authority when asked. Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
- Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes.

Monitoring

- Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked. Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Agree dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring one month before work commences on site.

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as possible.
- Erect solid screens or barriers around dusty 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.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- All mobile vehicles associated with the development should comply with the standards of the London Low Emission Zone.
- Ensure all vehicles switch off engines when stationary – no idling vehicles.
- Avoid the use of diesel and petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- 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 suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and 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

- Avoid bonfires and burning of waste materials.

Measures specific to construction

- Avoid scabbling (roughening of concrete surfaces) if possible.
- 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.

Measures specific to trackout

- Ensure all loads entering and leaving the site are covered.

4 Monitoring Strategy

The dust risk assessment has identified that the site is potentially a high risk for dust impacts during the construction phase and medium risk during demolition and earthworks. Therefore, prior to the commencement of demolition activities, MCERTS certified dust monitoring systems (e.g., OSIRIS) will be installed at two locations on site, up and downwind of the proposed works. The locations will be agreed with the London Borough of Ealing and are subject to site constraints (security, access, power availability).

The following guidelines will be adhered to when siting the monitors:

- the flow around the inlet sampling probe shall be unrestricted (free in an arc of at least 270°);
- avoid obstructions affecting the airflow in the vicinity of the sampler (e.g., buildings, balconies, trees and other obstacles);
- the inlet sampling point shall be between 1.5 m (the breathing zone) and 4 m above the ground; and
- the inlet probe shall not be positioned in the immediate vicinity of sources in order to avoid the direct intake of emissions unmixed with ambient air.

Monitoring of PM₁₀ will be undertaken continuously during the earthworks and construction phases. A 1 hour mean Site Action Level (SAL) level of 190 µg/m³ will be set, in accordance with the IAQM guidance⁹.

Should the SAL be exceeded, an email and SMS alert will immediately be sent to the contact on site and a contact at the London Borough of Ealing. These real-time alerts will enable the dust source to be identified and suitable mitigation to be rapidly employed to minimise further impacts. An incident form will be filled out for all breaches of the SAL, detailing the source of the emission and the action taken.

In the event that the SAL is consistently being breached, the Site Manager will ensure work ceases immediately and take any remedial actions that are required to ensure effective dust suppression, prior to restarting operations.

5 NRMM

Non-road mobile machinery (NRMM) is a broad term for mobile machines and industrial equipment / vehicles that operate on an internal combustion engine but are not intended for the transport of goods or passengers on roads. NRMM can be a significant source of local air pollutants and is a significant factor in London. In London, the Mayor

⁹ Guidance on Monitoring in the Vicinity of Demolition and Construction Sites, IAQM, October 2018 (Version 1.1)

has designated a specific NRMM low emission zone – requiring all engines with a power rating between 37 kW and 560 kW to meet an emission standard based on the engine emission “stage”. The development site is located within the Old Oak/ Park Royal Opportunity Area and therefore **Stage IV applies**¹⁰.

Notes / exemptions:

Stages IIIB and IV have not been defined for machines with constant speed engines, such as generators. This means that these machines will need to meet stage V.

6 Roles and Responsibilities

At all times, a named person (e.g., the Site Manager) will be accountable for air quality and dust issues on site, with responsibilities as follows:

- Ensure that work is carried out in accordance with this AQDMP.
- Ensure staff are aware of the requirements of the AQDMP and provide appropriate training.
- Ensure site inspections are undertaken.
- Respond to dust complaints.
- Maintain an inventory of NRMM on the NRMM register.
- Maintain an accurate log of site inspections, complaints and remedial actions undertaken.

7 Summary and Conclusions

A dust risk assessment has been undertaken for a proposed development at The Portal, North Acton. The London Borough of Ealing has declared an Air Quality Management Area (AQMA) covering the entire borough due to exceedances of the annual mean nitrogen dioxide (NO₂) and both the annual mean and daily mean PM₁₀ objectives. The proposed development is therefore located in an AQMA.

A dust risk assessment has been carried out using the IAQM’s ‘Guidance on the assessment of dust from demolition and construction’ to determine the potential impacts from demolition, earthworks, construction and trackout. The results of the assessment show that the development is classed as **“Medium Risk”** to **“High Risk”** for dust soiling and human health and **“Low Risk”** for ecological impacts.

Best practice dust control measures have been identified, based on the assessed risk of impacts. With the successful implementation of the recommended mitigation, off-site impacts are unlikely to be significant.

Regarding the use of Non Road Mobile Machinery on site, the developer should ensure that all machinery meets Stage IV standards.

¹⁰ <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/nrmm>



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