
KOMFORT SERVICES

AIR QUALITY ASSESSMENT

DOWER HOUSE, HARLINGTON

Client: Komfort Services

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1 INTRODUCTION

1.1 Introduction to Assessment

1.1.1 By instruction from Komfort Services (the 'client'), NoiseAir Limited was commissioned to undertake an Air Quality Assessment (AQA) in support of a planning application at Dower House, Harlington, proposing the restoration of a grade II listed fire damaged building, funded through the construction of up to 17 new dwellings (2-3 bedrooms) to the rear and associated infrastructure, including 12 parking spaces, herein referred to as 'the Site'.

1.1.2 The Site is located within the London Borough of Hillingdon (LBH) Air Quality Management Area (AQMA) which was declared in 2003 due to measured exceedances of the Nitrogen Dioxide (NO₂) annual mean objective (AQO).

1.1.3 Limitations of this report are outlined in **Appendix A**.

1.2 Site Location and Context

1.2.1 The Site is located at Dower House, 393 High Street, Harlington, London UB3 5DH, at approximate National Grid Reference (NGR): 508845, 177325. **Figure 1** details the location of the Site.

1.2.2 The Site is located within the LBH AQMA, an area where air quality is mainly influenced by road traffic emissions along the local road network, as well as nearby London Heathrow Airport, and as such, elevated pollutant concentrations may be experienced at and around this location. Subsequently, the Proposed Development may lead to adverse impacts at nearby sensitive receptors, as a result of fugitive dust emissions during construction and road vehicle exhaust emissions during operation. As such, an AQA is required to determine potential impacts associated with the Proposed Development in accordance with the requirements of The National Planning Policy Framework (NPPF). The AQA will therefore consider ambient pollutant concentrations namely NO₂ and particulate matter (PM₁₀ and PM_{2.5}) around the Site.

1.2.3 The main potential sources of air pollution were identified as emissions from road transport using the local road network, namely High Street immediately to the west. The northern boundary of London Heathrow Airport is located approximately 570m to the south.

1.2.4 The Proposed Development Site is located within the administrative area of the LBH. The area surrounding the Site is predominantly residential and is made up of two storey terraced

dwellings to the north and west, three storey flats to the south and to the east of the Site is agricultural land. The Site is located on the east side of High Street, Harlington.

- 1.2.5 The report presents the findings of an assessment of the potential air quality impacts of the Proposed Development during the construction and operational phases. For both phases, the source type and significance of potential impacts are identified, and measures that should be employed to minimise these are described. Furthermore, an air quality neutral assessment has been undertaken in accordance with the requirements for planning applications in London.

2 LEGISLATION AND POLICY

2.1 Air Quality Legislation and Policy

2.1.1 A summary of the relevant air quality legislation and policy is provided below.

UK Air Quality Strategy

2.1.2 The government's policy on air quality within England is set out in the Air Quality Strategy for England (AQS), with the latest framework published in 2023¹.

2.1.3 The AQS provides a framework for reducing air pollution in England with the aim of meeting the requirements of European Union Legislation, and fulfils the statutory requirement of the Environment Act 1995 as amended by the Environment Act 2021, to publish an Air Quality Strategy setting out air quality standards, objectives, and measures for improving ambient air quality every 5 years. The AQS sets Air Quality Objectives (AQOs) for seven key pollutants to protect health, vegetation, and ecosystems. These are benzene (C₆H₆), 1,3 butadiene (C₄H₆), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), particulate matter (PM₁₀) and sulphur dioxide (SO₂).

2.1.4 The air quality standards are levels recommended by the Expert Panel on Air Quality Standards (EPAQS) and the World Health Organization (WHO) with regards to current scientific knowledge and the effects of each pollutant on health and the environment.

2.1.5 The AQOs are medium-term policy-based targets set by the Government, which take into account economic efficiency, practicability, technical feasibility and timescale. Some objectives are equal to EPAQS recommended standards or WHO guideline limits, whereas other involve a margin of tolerance, i.e. a limited number of permitted exceedances of standards over a given period.

2.1.6 PM_{2.5} is not currently part of the Local Air Quality Management framework and therefore does not have any associated AQOs. The AQS, however, recognises this, and has set 2 new legally binding PM_{2.5} targets, each with an interim target:

- 10 µg/m³ annual mean concentration PM_{2.5} nationwide by 2040, with an interim target of 12 µg/m³ by January 2028; and
- 35% reduction in average population exposure by 2040, with an interim target of a 22% reduction by January 2028, both compared to a 2018 baseline.

¹ Department for Environment, Food and Rural Affairs (Defra, 2023) Policy paper Air quality strategy: framework for local authority delivery.

2.1.7 **Table 1** presents the AQOs/interim target for pollutants considered within this assessment.

Table 1: National Air Quality Objectives and Interim Target for the Protection of Human Health			
Pollutant	Applies to	Air Quality Objective/Interim Target	Measured As
NO ₂	UK	40µg/m ³	Annual mean
	UK	200µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
PM ₁₀	UK (except Scotland)	40µg/m ³	Annual mean
	UK (except Scotland)	50µg/m ³ not to be exceeded more than 35 times a year	24-hour mean
PM _{2.5}	UK (except Scotland)	Interim target of 12µg/m by 2028 Target of 22% reduction in population exposure by 2028 compared to 2018	Annual mean

2.1.8 For the pollutants considered in this assessment, there are both long-term (annual mean) and short-term standards. In the case of NO₂, the short-term standard is for a 1-hour averaging period, whereas for PM₁₀ it is a 24-hour averaging period. These periods reflect the varying impacts on health of differing exposures to pollutants, for example temporary exposure on the pavement adjacent to a busy road compared with the exposure of residential properties adjacent to a road.

Air Quality Regulations (2016)

2.1.9 Many of the objectives in the AQS have been made statutory in England with the Air Quality (England) Regulations 2000² and the Air Quality (England) (Amendment) Regulations 2002³ for the purpose of Local Air Quality Management (LAQM).

2.1.10 These Regulations require that likely exceedances of the AQS objectives are assessed in relation to:

[...] the quality of air at locations which are situated outside of buildings or other natural or man-made structures, above or below ground, and where members of the public are regularly present [...]

2.1.11 The Air Quality Standards (Amendment) Regulations 2016⁴ amends the Air Quality Standards Regulations 2010 that transpose the European Union Ambient Air Quality Directive (2008/50/EC) into law in England. This Directive sets legally binding limit values for concentrations in outdoor air of major air pollutants that impact public health such as PM₁₀, PM_{2.5} and NO₂. The limit values for NO₂ and PM₁₀ are the same concentration levels as the

² The Air Quality (England) Regulations 2000 – Statutory Instrument 2000 No.928.

³ The Air Quality (England) (Amendment) Regulations 2002 – Statutory Instrument 2002 No.3043.

⁴ The Air Quality Standards (Amendment) Regulations 2016 - Statutory Instrument 2016 No. 1184.

relevant AQS objectives and the limit value for PM_{2.5} is an interim target of 12µg/m³ to be achieved by 2028.

Environmental Protection Act 1990 – Control of Dust and Particles Associated with Construction

2.1.12 Section 79 of the Environmental Protection Act 1990⁵ gives the following definitions of statutory nuisance relevant to dust and particles:

'Any dust, steam, smell or other effluvia arising from industrial, trade or business premises or smoke, fumes or gases emitted from premises so as to be prejudicial to health or a nuisance'; and

'Any accumulation or deposit which is prejudicial to health or a nuisance'.

2.1.13 Following this, Section 80 says that where a statutory nuisance is shown to exist, the local authority must serve an abatement notice. Failure to comply with an abatement notice is an offence and if necessary, the local authority may abate the nuisance and recover expenses.

2.1.14 There are no statutory limit values for dust deposition above which 'nuisance' is deemed to exist. Nuisance is a subjective concept, and its perception is highly dependent upon the existing conditions and the change which has occurred.

Environment Act 1995

2.1.15 Under Part IV of the Environment Act 1995⁶, local authorities must review and document local air quality within their area by way of staged appraisals and respond accordingly, with the aim of meeting the air quality objectives defined in the Regulations. Where the objectives are not likely to be achieved, an authority is required to designate an Air Quality Management Area (AQMA). For each AQMA the local authority is required to draw up an Air Quality Action Plan (AQAP) to secure improvements in air quality and show how it intends to work towards achieving air quality standards in the future.

⁵ Environmental Protection Act. London 1990. HMSO.

⁶ Environment Act 1995. London HMSO.

Clean Air Strategy (2019)

- 2.1.16 In 2019, the UK government released its Clean Air Strategy 2019⁷, part of its 25 Year Environment Plan⁸. The Strategy sets out the comprehensive action that is considered to be required from across all parts of government and society.
- 2.1.17 The primary focus of air quality management has primarily related to NO₂, and its principal source in the UK, road traffic. The 2019 Strategy aims to broaden the focus to other areas, including actions on clean growth, and emissions from domestic wood burning stoves, industry and agriculture.

2.2 Planning Policy

- 2.2.1 A summary of the national and local planning policy relevant to the Proposed Development and air quality is provided below.

National Planning Policy Framework (2024)

- 2.2.2 The Government's overall planning policies for England are described in the National Planning Policy Framework⁹. The core underpinning principle of the Framework is the presumption in favour of sustainable development, defined as:

"[...] meeting the needs of the present without compromising the ability of future generations to meet their own needs".

- 2.2.3 The NPPF states that to achieve sustainable development in the planning system, three overarching objectives are required, which are interdependent from one another, and must be pursued in mutually supportive ways:

"a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful

⁷ Department for Environment, Food and Rural Affairs (2019) Clean Air Strategy 2019.

⁸ Department for Environment Food and Rural Affairs (Defra) (2018) A Green Future: Our 25 Year Plan to Improve the Environment.

⁹ Ministry of Housing, Communities & Local Government (2024) National Planning Policy Framework.

and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and

*c) **an environmental objective** – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”*

2.2.4 In relation to air quality, the following is relevant:

“9. Promoting sustainable transport

Transport issues should be considered from the earliest stages of plan-making and development proposals, using a vision-led approach to identify transport solutions that deliver well-designed, sustainable and popular places. This should involve:

a) making transport considerations an important part of early engagement with local communities;

b) ensuring patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places;

c) understanding and addressing the potential impacts of development on transport networks;

d) realising opportunities from existing or proposed transport infrastructure, and changing transport technology and usage – for example in relation to the scale, location or density of development that can be accommodated;

e) identifying and pursuing opportunities to promote walking, cycling and public transport use; and

f) identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains.

The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health.

However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”; and

“15. Conserving and enhancing the natural environment

Planning policies and decisions should contribute to and enhance the natural and local environment by:

[...]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

[...]

Ground conditions and pollution

[...]

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

[...]

The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.”

2.2.5 The AQA has been undertaken in accordance with the NPPF.

2.3 Local Planning Policy

The London Plan

2.3.1 According to The Greater London Authority's (GLA's) policy, the Mayor of London is required to publish and review a Spatial Development Strategy (SDS), which is known as the London Plan. The London Plan 2021¹⁰ is the overall strategic plan for London's growth in a sustainable way which runs from 2019 to 2041. It sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years. It has been stated that:

"The London Plan is legally part of each of London's Local Planning Authorities' Development Plan and must be taken into account when planning decisions are taken in any part of Greater London."

2.3.2 The London Local Plan identified the following core policy of relevance to air quality:

"Policy SI 1 - Improving Air Quality

A- *Development plans, through relevant strategic, site specific and area-based policies should seek opportunities to identify and deliver further improvements to air quality and should not reduce air quality benefits that result from the Mayor's or boroughs' activities to improve air quality.*

B- *To tackle poor air quality, protect health and meet legal obligations the following criteria should be addressed.*

1) *Development proposals should not:*

- a) *lead to further deterioration of existing poor air quality*
- b) *create any new areas that exceed air quality limits, or delay the date which compliance will be achieved in areas that are currently in exceedance of legal limits*
- c) *create unacceptable risk of high levels of exposure to poor air quality.*

2) *In order to meet the requirements of Part 1, as a minimum:*

- a) *Development proposals must be at least Air Quality Neutral*

¹⁰ Mayor of London: The London Plan: The Spatial Development Strategy for Greater London, March 2021.

-
- b) *Development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retrofitted mitigation measures*
 - c) *Major development proposals must be submitted with an Air Quality Assessment. Air quality assessments should show how the development will meet the requirements of B1.*
 - d) *Development proposals in Air Quality Focus Areas or that are likely to be used by large numbers of people particularly vulnerable to poor air quality, such as children or older people, should demonstrate that design measures have been used to minimise exposure.*

C- Masterplans and development briefs for large-scale development proposals subject to an Environmental Impact Assessment should consider how local air quality can be improved across the area of the proposal as part of an air quality assessment. To achieve this a statement should be submitted demonstrating:

- 1) How proposals have considered ways to maximise benefits to local air quality, and,*
- 2) What measures or design features will be put in place to reduce exposure to pollution, and how often they will achieve this.*

D- In order to reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.

E- Development proposals should ensure that where emissions need to be reduced to meet the requirements of Air Quality Neutral or to make the impact of development on local air quality acceptable, this is done on-site. Where it can be demonstrated that emissions cannot be further reduced by on-site measures, off-site measures to improve local air quality may be acceptable, provided that equivalent air quality benefits can be demonstrated within the area affected by the development.'

2.3.3 The requirements of this policy have been considered throughout this AQA.

Sustainable Design and Construction Supplementary Planning Guidance (2014)

2.3.4 The Sustainable Design and Construction Planning Guidance (SPG)¹¹ was published by the GLA in April 2014. The document aims to support developers, local planning authorities and neighbourhoods to achieve sustainable development, as well as providing guidance on how to achieve the London Plan objectives effectively.

2.3.5 The document provides guidance on the following key areas when undertaking an Air Quality Assessment:

- Assessment requirements;
- Construction and demolition;
- Design and occupation;
- Air Quality Neutral policy for buildings and transport; and,
- Emissions standards for combustion plant.

2.3.6 These key areas were taken into consideration during the undertaking of this assessment.

Hillingdon Local Plan Part 1 (2012)

2.3.7 Hillingdon's Local Plan: Part 1 Strategic Policies¹² was adopted in November 2012 is the key strategic planning document for Hillingdon. The following policies are relevant to both air quality and the Proposed Development:

“Policy BE1: Built Environment

The Council will require all new development to improve and maintain the quality of the built environment in order to create successful and sustainable neighbourhoods, where people enjoy living and working and that serve the long-term needs of all residents. All new developments should: [...]

10. Maximise the opportunities for all new homes to contribute to tackling and adapting to climate change and reducing emissions of local air quality pollutants. The Council will require all new development to achieve reduction in carbon dioxide emission in line with the London Plan targets through energy efficient design and effective use of low and zero carbon technologies. [...] All developments should be designed to make the most efficient use of natural resources whilst safeguarding historic assets, their settings and local amenity and include sustainable design and construction techniques to increase the re-use and

¹¹ Sustainable Design and Construction SPG, GLA, 2014.

¹² London Borough of Hillingdon (November 2012), Local Plan: Part 1 Strategic Policies Available online at <https://www.hillingdon.gov.uk/local-plan>

recycling of construction, demolition and excavation waste and reduce the amount disposed to landfill.”

“Policy EM1: Climate Change Adaption and Mitigation

The Council will ensure that climate change mitigations is addressed at every stage of the development process by:

- 1. Prioritising higher density development in urban town centres that are well served by sustainable forms of transport.*
- 2. Promoting a modal shift away from private car use and requiring new development to include innovative initiatives to reduce car dependency. [...]*
- 6. Targeting areas with high carbon emissions for additional reductions through low carbon strategies. These strategies will also have an objective to minimise other pollutants that impact on local air quality. Targeting areas of poor air quality for additional mitigation reductions. [...]*
- 8. Encouraging the installation of renewable energy for all new development in meeting the carbon reduction target savings set out in the London Plan.”*

“Policy EM8: Land, Water, Air and Noise [...]

Air Quality

All development should not cause deterioration in the local air quality levels and ensure the protection of both existing and new sensitive receptors. [...]

The Council seeks to reduce the levels of pollutant referred to in the Government’s national Air Quality Strategy and will have regard to the Mayor’s Air Quality Strategy. London Borough’s should also take account of the findings of the Air Quality Review and Assessments and Actions plans, in particular where Air Quality Management Areas have been designated.

The Council has a network of Air Quality Monitoring stations but recognises that this can be widened to improve understanding of air quality impacts.”

Hillingdon Local Plan Part 2 (2020)

2.3.8 Hillingdon’s Local Plan: Part 2 Development Management Policies¹³ was adopted in January 2020. Its purpose is to provide detailed policies that will form the basis of the Council’s decisions on individual planning applications. The following policies are relevant to both air quality and the Proposed Development:

“Policy DMEI 14: Air Quality

A) *Development proposals should demonstrate appropriate reductions in emissions to sustain compliance with and contribute towards meeting EU limit values and national air quality objectives for pollutants.*

B) *Development proposals should as a minimum:*

- i) *be at least “air quality neutral”;*
- ii) *include sufficient mitigation to ensure there is no unacceptable risk from air pollution to sensitive receptors, both existing and new: and*
- iii) *actively contribute towards the improvement of air quality, especially within the Air Quality Management Area.”*

LBH Air Quality Action Plan

2.3.9 This Air Quality Action Plan¹⁴ highlights the actions the Council is taking to raise awareness of air pollution and improve air quality in Lambeth between 2025 and 2030. This action plan replaces the previous action plan which ran from 2019 to 2024, but is currently still in consultation stage.

¹³ London Borough of Hillingdon (November 2012), Local Plan: Part 2 Development Management Policies. Available online at <https://www.hillingdon.gov.uk/local-plan>

¹⁴ London Borough of Hillingdon (2025) Air Quality Action Plan 2025-2030 [Online] Available at <https://modgov.hillingdon.gov.uk/documents/s63525/Draft+Air+Quality+Action+Plan+-+Pre+Consultation+Version.pdf>.

London Local Air Quality Management Technical Guidance (2019)

- 2.3.10 The GLA has published technical guidance for use by London authorities in their review and assessment work. This guidance, referred to in this document as LLAQM.TG19¹⁵, has been used where appropriate in the assessment presented herein.
- 2.3.11 Although the LLAQM technical guidance is based on the national LAQM technical guidance, it does incorporate London-specific elements to the review and assessment process.

2.4 Planning Guidance

- 2.4.1 A summary of the publications referred to in undertaking this assessment is provided below.

Local Planning Guidance Sustainable Design and Construction Supplementary Planning Guidance (2014)

- 2.4.2 The Sustainable Design and Construction Planning Guidance (SPG)¹⁶ was published by the GLA in April 2014. The document aims to support developers, local planning authorities and neighbourhoods to achieve sustainable development, as well as providing guidance on how to achieve the London Plan objectives effectively.
- 2.4.3 The document provides guidance on the following key areas when undertaking an Air Quality Assessment:
- Assessment requirements;
 - Construction and demolition;
 - Design and occupation;
 - Air Quality Neutral policy for buildings and transport; and,
 - Emissions standards for combustion plant.

Land-Use Planning and Development Control: Planning for Air Quality (2017)

- 2.4.4 Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have published guidance¹⁷ that offers comprehensive advice on when an air quality assessment may be required; what should be included in an assessment; how to determine the significance of any air quality impacts associated with a development; and, the possible mitigation measures that may be implemented to minimise these impacts.

¹⁵ Greater London Authority (GLA) (2019) London Local Air Quality Management (LLAQM) Technical Guidance 2019 (LLAQM.TG (19))

¹⁶ Sustainable Design and Construction SPG, GLA, 2014.

¹⁷ Environmental Protection UK and Institute of Air Quality Management (Version 1.2 Updated January 2017) Land Use Planning and Development Control: Planning for Air Quality.

National Planning Practice Guidance – Air Quality (2019)

- 2.4.5 This guidance¹⁸ provides a number of guiding principles on how the planning process can take into account the impact of new development on air quality, it explains how much detail air quality assessments need to include for proposed developments, and how impacts on air quality can be mitigated. It also provides information on how air quality is taken into account by local authorities in both the wider planning context of Local Plans and neighbourhood planning, and in individual cases where air quality is a consideration in a planning decision.

London Local Air Quality Management Technical Guidance (2019)

- 2.4.6 The GLA has published technical guidance for use by London authorities in their review and assessment work. This guidance, referred to in this document as LLAQM.TG19¹⁹, has been used where appropriate in the assessment presented herein.
- 2.4.7 Although the LLAQM technical guidance is based on the national LAQM technical guidance, it does incorporate London-specific elements to the review and assessment process.

Local Air Quality Management Review and Assessment Technical Guidance (2022)

- 2.4.8 The Department for Environment, Food and Rural Affairs (Defra) has published technical guidance for use by local authorities in their review and assessment work. This guidance, referred to in this document as LAQM.TG22²⁰, has been used where appropriate in the assessment presented herein.

Guidance on the Assessment of Dust from Demolition and Construction (2024)

- 2.4.9 This document²¹ published by the IAQM was produced to provide guidance to developers, consultants and environmental health officers on how to assess the impacts arising from construction activities. The emphasis of the methodology is on classifying sites according to the risk of impacts (in terms of dust nuisance, PM₁₀ impacts on public exposure and impact upon sensitive ecological receptors) and to identify mitigation measures appropriate to the level of risk identified.

¹⁸ Department of Communities and Local Government (DCLG) (Updated November 2019) National Planning Practice Guidance.

¹⁹ Greater London Authority (GLA) (2019) London Local Air Quality Management (LLAQM) Technical Guidance 2019 (LLAQM.TG (19)).

²⁰ Department for Environment, Food and Rural Affairs (Defra) (2022) Part IV The Environment Act 1995 as amended by the Environment Act 2021 Environment (Northern Ireland) Order 2002 Part III, Local Air Quality Management Technical Guidance LAQM.TG22.

²¹ Institute of Air Quality Management (2024) Guidance on the Assessment of Dust from Demolition and Construction Version 2.2 (January 2024).

Practice Note – The Control of Dust and Emissions from Construction and Demolition (2024)

- 2.4.10 The GLA has published a practice note regarding the control of dust and emissions from construction and demolition²². The note refers to the above IAQM guidance, which should be followed when assessing and mitigating for the impact of dust and emissions from construction and demolition of developments in London.
- 2.4.11 The note also highlights key aspects of the SPG which should be referred to, when carrying out construction dust assessments in London.
- 2.4.12 The following advice from the note has been considered in in the construction phase assessment for the Proposed Development:

“National best practice guidance

The Institute of Air Quality Management’s (IAQM) guidance ‘Assessment of Dust from Demolition and Construction’ is considered best practice and is recommended to be used when assessing and managing the impacts from demolition and construction. Please follow the latest version of the guidance which can be found on the IAQM’s guidance documents webpage.

Non-road mobile machinery (NRMM)

The NRMM Low Emission Zone was introduced in 2015. It requires that all NRMM engines in London with a power rating between 37 kW and 560 kW meet an emission standard based on the engine emission “stage”. Since the publication of the Mayor’s SPG ‘The Control of Dust and Emissions During Construction and Demolition’ (2014), stage requirements (emission standards for NRMM) have been updated. From the 1st of January 2025 all NRMM will need to meet Stage IV and with all NRMM eventually needing to be zero emission throughout London from 1st January 2040. Developers should ensure that NRMM used for construction and demolition complies with the required stage set out on the GLA’s NRMM webpage which sets out which stages are applicable.

²² Greater London Authority (GLA) (2024) Practice Note – The Control of Dust and Emissions from Construction and Demolition [Online] <https://www.london.gov.uk/sites/default/files/2024-07/Control-of-Dust-Practice-Note.pdf> [Accessed 12/06/2025]

Screening Distances

When assessing the need for a Dust Risk Assessment, developers are expected to use the screening criteria set out in paragraph 4.16 of 'The Control of Dust and Emissions During Construction and Demolition' SPG.

Dust Suppressants

Developers and LPAs are also encouraged to take into consideration information in 'The Control of Dust and Emissions During Construction and Demolition' (2014) SPG regarding dust suppressants which can be found in sections 5.41 to 5.45, and Appendix 7."

3 SCOPE AND METHODOLOGY

3.1 Scope

3.1.1 The scope of the assessment has been determined in the following way:

- A review of the Masterplan of the Proposed Development;
- Desktop study to confirm the locations of nearby existing receptors that may be sensitive to changes in local air quality; and
- Review of LBH's latest available Air Quality Annual Status Report²³ (ASR) and air quality data surrounding the Site including data from Defra²⁴.

3.1.2 The scope of the assessment includes consideration of the potential impact on local air quality resulting from:

- Dust and particle matter generated by on-site activities during the construction phase;
- Increases in pollutant concentrations as a result of exhaust emissions arising from construction traffic and plant; and
- Increases in pollutant concentrations as a result of exhaust emissions arising from traffic generated by the Proposed Development once operational.

3.2 Construction Phase Assessment

3.2.1 Dust comprises particles typically in the size range of 1-75 micrometres (μm) in aerodynamic diameter and is created through the action of crushing and abrasive forces on materials. The larger dust particles fall out of the atmosphere quickly after initial release and therefore tend to be deposited in close proximity to the source of emission. Dust therefore is unlikely to cause long term or wide-spread changes to air quality; however, it's deposition on property and cars can cause 'soiling' and discolouration. This may result in complaints of nuisance through amenity loss or perceived damage caused, which is usually temporary.

3.2.2 The smaller particles of dust are known as particulate matter (PM), with less than 10 μm in aerodynamic diameter (PM_{10}) representing only a small proportion of total dust released; this includes a finer fraction, known as $\text{PM}_{2.5}$ (with an aerodynamic diameter less than 2.5 μm). As these particles are at the smaller end of the size range of dust particles, they remain suspended in the atmosphere for a longer period of time than the larger dust particles, they can therefore be transported by wind over a wider area. PM_{10} and $\text{PM}_{2.5}$ are small enough to

²³ London Borough of Hillingdon (2025) Air Quality Annual Status Report for 2024.

²⁴ Department for Environment, Food and Rural Affairs (Defra, 2025) Background Mapping 2021 [Online] Available at <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>.

be drawn into the lungs during breathing, which in sensitive members of the public could have a potential impact on health. However, it is worth noting that, according to the IAQM guidance, the majority of fugitive particulate emissions arising from construction sites are expected to relate to the coarser fractions (i.e. PM_{2.5-10}) with just 10-15% expected to comprise PM_{2.5}. The IAQM guidance therefore focusses on PM₁₀ for the purposes of assessment.

3.2.3 An assessment of the likely significant impacts on local air quality due to the generation and dispersion of dust and PM₁₀ during the construction phase has been undertaken using: the relevant assessment methodology published by the IAQM; the available information for this phase of the Proposed Development provided by the Client and/or Project Team; and, the professional judgement of the NoiseAir team.

3.2.4 The IAQM methodology assesses the risk of potential dust and PM₁₀ impacts from the following four sources: demolition, earthworks, construction and trackout. It takes into account the nature and scale of the activities undertaken for each source and the sensitivity of the area to an increase in PM₁₀ levels to assign a level of risk. Risks are described in terms of there being a low, medium or high risk of dust impacts. Once the level of risk has been identified, and the significance of residual effects determined. A summary of the IAQM assessment methodology is provided in **Appendix C**.

3.2.5 In addition to the impacts on local air quality due to on-site construction activities, exhaust emissions from construction vehicles and plant may have an impact on local air quality adjacent to the routes used by these vehicles to access the application Site and in the vicinity of the application Site itself. As information on the number of vehicles and plant associated with the construction phase was not available at the time of writing, a qualitative assessment of their impact on local air quality has been undertaken using professional judgement and considering the following:

- The number and type of construction traffic and plant likely to be generated by this phase of the development;
- The number and proximity of sensitive receptors to the application Site and along the likely routes to be used by construction vehicles; and
- The likely duration of the construction phase and the nature of the construction activities undertaken.

Selection of Sensitive Receptors

3.2.6 The IAQM assessment is undertaken where there are:

- 'human receptors' within 250 m of the site boundary, or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s); and/or
- 'ecological receptors' within 50 m of the site boundary, or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s).

3.2.7 It is within these distances that the impacts of dust soiling and increased particulate matter in the ambient air will have the greatest impact on local air quality at sensitive receptors.

3.3 Operational Phase Assessment

Impacts of the Local Area on the Development

3.3.1 The Proposed Development has the potential to expose future users to existing air quality issues. In accordance with the EPUK and IAQM guidance, there may be a requirement to carry out an air quality assessment for the impacts of the local area's emissions on the Proposed Development itself.

3.3.2 As the Proposed Development includes land use sensitive to both long and short-term pollutant concentrations, impacts of the local area on the Proposed Development have been determined by reviewing:

- **AQMA designations:** A review of any AQMA designations has been undertaken to determine if the Site itself falls within an AQMA, or if there are any within proximity to the Site;
- **Background concentrations:** Background pollutant data has been taken from the national maps provided on the Defra website, where background concentrations of those pollutants included within the AQS have been mapped at a grid resolution of 1x1 km for the whole of the UK. Estimated background concentrations all available for all years between 2021 and 2040. The maps assume that background concentrations will improve (i.e., reduce) overtime, in line with the predicted reduction in vehicle emissions, and emissions from other sources; and
- **Local Air Quality Monitoring (LAQM):** Monitoring data published by LBH has been reviewed by to establish baseline air quality conditions in the vicinity of the Site.

Impacts of the Development on the Local Area

3.3.3 The operational phase of the Proposed Development has the potential to impact air quality at existing sensitive receptors.

3.3.4 The EPUK & IAQM guidance sets out two stages for determining when an assessment of potential impacts on the local area is likely to be necessary. The Stage 1 criteria for an air quality assessment is presented below:

A. If any of the following apply:

- 10 or more residential units or a site area of more than 0.5ha; or
- More than 1,000m² of floor space for all other uses or a site greater than 1ha.

B. Coupled with any of the following:

- The development has more than 10 parking spaces; or
- The development will have a centralised energy facility of other centralised combustion processes.

3.3.5 Should these criteria not be met, then the EPUK and IAQM guidance considers air quality impacts associated with a scheme to be negligible and no further assessment is required. Should the criteria be met or exceeded, proceed to Stage 2. Stage 2 of the EPUK & IAQM guidance document states the following criteria to help establish when an air quality assessment is likely to be considered necessary:

- Proposals that will cause a change in Light Duty Vehicle (LDV) flows of more than 100 AADT within or adjacent to an AQMA or more than 500 elsewhere.
- Proposals that will cause a change in HDV flows of more than 25 AADT within or adjacent to an AQMA or more than 100 elsewhere.
- Proposals that would realign roads within an AQMA by more than 5m;
- Proposals that will introduce new junctions or remove existing junctions near relevant receptors.
- Proposals that will introduce or change a bus station or change flows of buses by more than 25 AADT within an AQMA or more than 100 AADT elsewhere.
- Proposals which will include an underground car park with extraction system which will be within 20m of a relevant receptor and have more than 100 movements per day.
- Proposals which include either a centralised plant using biofuel, a combustion plant with single or thermal input >300KWh or a standby emergency generator associated with a centralised energy centre; and,

-
- Proposals which include combustion processes of any size.

3.3.6 Should these criteria not be met, then the EPUK and IAQM guidance documents consider air quality impacts associated with a scheme to be not significant and no further assessment being required.

3.3.7 Should screening of the traffic data indicate that any of the above criteria are met, then potential impacts at sensitive receptor locations can be assessed by calculating the predicted change in pollutant concentrations as a result of the Proposed Development.

3.3.8 The significance of predicted impacts can then be determined in accordance with the methodology.

3.4 Significance Criteria

Construction Phase

3.4.1 The IAQM assessment methodology recommends that significance criteria are only assigned to the identified risk of dust impacts occurring from a construction activity with appropriate mitigation measures in place. For almost all construction activities, the application of effective mitigation should prevent any significant effects occurring to sensitive receptors and therefore the residual effect will normally be negligible.

3.4.2 For the assessment of the impact of exhaust emissions from plant used on-site and construction vehicles accessing and leaving the Site on local concentrations of NO₂ and particulate matter; the significance of residual effects has been determined using professional judgement and the principles outlined in the EPUK & IAQM guidance, which are described below.

Operational Phase

3.4.3 The approach provided in the EPUK & IAQM guidance has been used within this assessment to assist in describing the air quality effects of additional emissions from traffic generated by the Proposed Development once operational.

4 BASELINE

4.1 Introduction

4.1.1 Existing air quality conditions in the vicinity of the Site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

4.2 Local Air Quality Management

4.2.1 As required by the Environment Act (1995), LBH undertake review and assessment of air quality within their area of jurisdiction. In 2024, the last year for which monitoring data is available, LBH monitored air quality through a network of 12 automatic monitors and 44 non-automatic (diffusion tube) monitoring locations.

4.2.2 There is currently one AQMA in the jurisdiction of LBH, the Hillingdon AQMA, which covers the entire Borough. The Site is therefore within this AQMA. The Site is also located within the Heathrow Area Air Quality Focus Area (AQFA).

4.3 Air Quality Monitoring

4.3.1 Monitoring of pollutant concentrations is undertaken by LBH throughout their area of jurisdiction. Recent monitoring within 750m of the Site is presented in **Table 2** and shown on **Figure 2**.

Monitoring Site	Site Type	Distance to Kerb of Nearest Road (m)	Distance to Site (m)	Monitored NO ₂ Concentration (µg/m ³)				
				2020	2021	2022	2023	2024
HILL25 DT	B	33.0	55	28.3	28.5	32.8	30.2	25.7
HILL09 DT	RS	1.0	375	23.8	24.5	28.8	26.7	23.5
HILL10 DT	RS	1.0	450	25.2	26.4	28.3	31.5	26.0
HILL38 DT	RS	1.2	640	33.0	28.9	35.6	34.4	29.1
HI3	RS	2.0	640	22.0	25.0	29.0	27.0	27.0
LHR2	A	N/A	650	25.0	25.0	30.0	32.0	29.0
LHRBR	RS	6.0	660	39.5	34.0	36.0	36.0	32.0
HRL	A	3.0	705	20.0	20.0	24.0	22.0	19.0

Results rounded to 1 d.p.
DT = diffusion tube, B = background, RS = roadside, A = airport.

4.3.2 As **Table 2** shows, there have not been monitored exceedances of the objective at any of the eight monitoring positions within 750m of the Site in the last five years of available monitoring data. This includes locations within 1m of the kerbs of busy roads and in locations with junctions and traffic lights, and inside the boundary of Heathrow Airport, which are areas that would be expected to experience higher pollutant concentrations than the Site.

4.3.3 The closest monitor is Monitor HILL25 and as such this location is considered to be the most representative of conditions across the Site based on the proximity. As this monitor has consistently recorded NO₂ below the AQO, this gives a good indication that concentrations across the Site will also be below the AQO.

4.3.4 The automatic monitors in the area also record PM₁₀ and PM_{2.5} concentrations within 750m of the Site. Recent monitoring from these monitoring locations is presented below in **Table 3**.

Table 3: Particulate Monitoring Results								
Monitoring Site	Site Type	Distance to Kerb of Nearest Road (m)	Distance to Site (m)	Monitored PM ₁₀ Concentration (µg/m ³)				
				2020	2021	2022	2023	2024
HI3	RS	2.0	640	24	23	20	22	18
LHR2	A	N/A	650	13	11	11	13	11
LHRBR	RS	6.0	660	-	14	14	16	13
HRL	A	3.0	705	15	14	13	13	11
Results rounded to 1 d.p. RS = roadside, A = airport.								
Monitoring Site	Site Type	Distance to Kerb of Nearest Road (m)	Distance to Site (m)	Monitored PM _{2.5} Concentration (µg/m ³)				
				2020	2021	2022	2023	2024
LHR2	A	N/A	650	9	7	7	8	7
LHRBR	RS	6.0	660	-	11	8	9	8
HRL	A	3.0	705	10	8	8	8	7
Results rounded to 1 d.p. RS = roadside, A = airport.								

4.3.5 As shown in **Table 3**, the automatic monitors within 750m of the Site boundary recorded concentrations below the relevant AQO/interim target for PM₁₀ and PM_{2.5} between 2020 – 2024, including busy roadside locations close to Heathrow and locations within Heathrow itself.

4.4 Background Pollutant Concentrations

4.4.1 Predictions of background pollutant concentrations on a 1 km-by-1 km basis have been produced by DEFRA for the entire of the UK to assist local authorities in their review and assessment of air quality. The proposed site is located in grid square **508500, 177500**. Data for this location was downloaded from the DEFRA website²⁵ and is summarised in **Table 4**.

Table 4: Predicted Background Pollutant Concentrations						
OS Grid Reference (X, Y; m)	Predicted Background Pollutant Concentration (µg/m ³)					
	2024			2026		
	NO ₂	PM ₁₀	PM _{2.5}	NO ₂	PM ₁₀	PM _{2.5}
508500, 177500	20.4	13.5	8.0	20.1	13.3	7.9
Rounded to 1 d.p.						

4.4.2 As shown in **Table 4**, predicted background NO₂, PM₁₀ and PM_{2.5} concentrations are well below the relevant AQOs and interim target across the assessment extents in the baseline year of 2024 and the assumed earliest possible opening year of 2026.

²⁵ Department for Environment, Food and Rural Affairs (Defra) (2025) Background Concentrations [Online] Available at <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>.

5 ASSESSMENT

5.1 Introduction

5.1.1 There is the potential for air quality impacts as a result of the construction and operation of the Proposed Development. These are assessed in the following sections.

5.2 Construction Phase Assessment

5.2.1 Construction activities have the potential to generate and/ or re- suspend dust and PM₁₀ sources include:

- Site clearance and preparation including demolition activities;
- Preparation of temporary access/ egress to the Site and haulage routes;
- Earthworks;
- Materials handling, storage, stockpiling, spillage and disposal;
- Movement of vehicles and construction traffic within the Site (including excavators and dumper trucks);
- Use of crushing and screening equipment/ plant;
- Exhaust emissions from plant, especially when used at the extremes of their capacity and during mechanical breakdown;
- Construction of buildings, roads and areas of hard standing alongside fabrication processes;
- Internal and external finishing and refurbishment;
- Trackout, whereby earth is carried from the Site on vehicle tyres, deposited on roads and may later become suspended in the air as a result of vehicle movements; and
- Site landscaping after completion.

5.2.2 The majority of the releases are likely to occur during the 'working week'. However, for some potential release sources (e.g., exposed soil produced from significant earthworks activities) in the absence of dust control mitigation measures, dust generation has the potential to occur 24 hours per day over the period during which such activities are to take place.

Assessment of Potential Dust Emission Magnitude

5.2.3 The IAQM assessment methodology has been used to determine the potential dust emission magnitude for the following four different dust and PM₁₀ sources:

- Demolition;
- Earthworks;

-
- Construction; and
 - Trackout.

5.2.4 The findings of the assessment are presented below.

Demolition

5.2.5 There may be a very small amount of demolition undertaken within the existing building, but this will not exceed 20,000m³. Apart from this, the external facades are to be retained, and any demolition required will be internal. As such, the potential dust emission magnitude is therefore considered to be **small** for the demolition stage.

Earthworks

5.2.6 The total Site area is around 7,000m², but there could be some potentially dusty soil types and between 5 – 10 heavy earth moving vehicles onsite at any one time. As such, the potential dust emission magnitude is therefore considered to be **medium** for the earthworks stage.

Construction

5.2.7 The total volume of buildings to be constructed on the Site is estimated to be between 12,000 – 75,000m³, with most construction works occurring within the existing building. Therefore, dust emission magnitude is considered to be **medium** in terms of construction activities.

Trackout

5.2.8 Information on the number of HDVs associated with this phase of the Proposed Development is not available and therefore professional judgement has been used. It has been assumed that given the size and location of the Proposed Development area there are unlikely to be more than 20 HDV trips associated with the Site in any one day, and an unpaved road length of less than 50m. Therefore, it is considered that the potential dust emission magnitude is **small** for trackout.

5.2.9 **Table 5** provides a summary of the potential dust emission magnitude determined for each construction activity considered.

Table 5: Potential Dust Emission Magnitude	
Activity	Dust Emission Magnitude
Demolition	Small
Earthworks	Medium
Construction Activities	Medium
Trackout	Small

Assessment of Sensitivity of the Study Area

- 5.2.10 The prevailing wind direction is predominantly from the south-west. Therefore, receptors located to the north-east of the Site are more likely to be affected by dust and particulate matter emitted and re-suspended during the construction phase.
- 5.2.11 Under lower wind speed conditions, it is likely that the majority of dust would be deposited in the area immediately surrounding the source. Receptors north-east of the Site are expected to be affected the most as a result of the prevailing wind direction. It has been assumed that construction traffic will access the Site from High Street.
- 5.2.12 There are no ecological receptors within 50m of the Site boundary or access route, or within 250m of the Site entrance as identified using Multi Agency Geographic Information for the Countryside (MAGIC) website²⁶. The closest ecological receptor, the Cranebank Local Nature Reserve, is approximately 1.5km southeast of the Site. As such, ecological impacts have not been assessed further within this report.
- 5.2.13 Taking the above into account and following the IAQM assessment methodology, the sensitivity of the area to changes in dust and PM₁₀ has been derived for each of the construction activities considered. The results are shown in **Table 6**.

Table 6: Sensitivity of the Study Area				
Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High	High	High	High
Human Health	Medium	Medium	Medium	Medium

Risk of Impacts

- 5.2.14 The predicted dust emission magnitude has been combined with the defined sensitivity of the area to determine the risk of impacts during the construction phase, prior to mitigation. **Table 7** below provides a summary of the risk of just impacts for the Proposed

²⁶ Department for Environment, Food and Rural Affairs (Defra) (2025) Multi-Agency Geographic Information for the Countryside (MAGIC) [Online] <https://magic.defra.gov.uk/>.

Development. The risk category identified for each construction activity has been used to determine the level of mitigation required.

Table 7: Summary Dust Risk Table Defining Site Specific Mitigation				
Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium	Medium	Medium	Low
Human Health	Low	Medium	Medium	Negligible

Construction Vehicles and Plant

- 5.2.15 The greatest impact on air quality is emissions from vehicles and plant associated with the construction phase will be in the areas immediately adjacent to the Site access road. Due to the size of the Site, it is considered likely that any construction traffic will be very low in comparison to the existing traffic flows on these roads.
- 5.2.16 Final details of the exact plant and equipment likely to be used on-site will be determined by the appointed contractor. The number of plant and their location within the Site are likely to be variable over the construction. This is likely to be small in size and number given the size of the Site.
- 5.2.17 Based on the current local air quality in the area, the proximity of sensitive receptors to the roads likely to be used by construction vehicles, And the likely numbers of construction vehicles and plant that will be used the impacts are therefore considered to being **negligible** according to the assessment significance criteria.

5.3 Operational Phase Assessment

Impacts of the Local Area on the Development

- 5.3.1 The Proposed Development includes land use sensitive to long-term and short-term pollutant concentrations, therefore, an assessment of the impacts of the local area on the Proposed Development has been undertaken.

AQMA Designation

- 5.3.2 The Site is located within the Borough-wide Hillingdon AQMA.

Local Monitoring

- 5.3.3 As shown in **Table 2** and Table 3, monitoring of NO₂, PM₁₀ and PM_{2.5} in the vicinity of the Site have consistently recorded annual mean concentrations below the relevant air quality objectives between 2020 and 2024.
- 5.3.4 Based on local monitoring, exceedances of the relevant AQOs/interim target are considered unlikely at the Site.

Predicted Background Pollutant Concentrations

- 5.3.5 As shown in **Table 4**, background pollutant concentrations for the grid square containing the Site are predicted to be below the relevant AQOs/interim target for NO₂, PM₁₀ and PM_{2.5} in 2026 (i.e. the predicted earliest possible opening year) and future years, as Defra predicts a gradual year on year decline in background pollutant concentrations.
- 5.3.6 Based on the predicted background concentrations, exceedances of the relevant AQOs/interim target are considered unlikely at the Site.

Summary

- 5.3.7 Based on the above, exceedances of the relevant AQOs/interim target are considered unlikely at the Site, and no further assessment is deemed necessary.

Impacts of the Development on the Local Area

- 5.3.8 Vehicle movements associated with the operation of the proposal will generate exhaust emissions on the local and regional road networks.
- 5.3.9 A screening assessment has been conducted based on Stage 1 EPUK and IAQM criteria. As the Proposed Development includes more than 10 dwellings and more than 10 parking spaces, the proposals meet the Stage 1 criteria, and it is necessary to proceed to Stage 2.
- 5.3.10 Indoor heat pumps are to be installed throughout the development to provide heating and hot water to the dwellings, resulting in no need for any new combustion processes.
- 5.3.11 The project's Transport Consultant confirmed that the Proposed Development will not generate more than 100 AADT for LDVs or 25 AADT for HDVs.
- 5.3.12 As such, it is considered that the Site will not exceed the Stage 2 criteria of generating 100 AADT LDVs or 25 AADT HDVs within the Hillingdon AQMA, and the EPUK and IAQM

guidance considers air quality impacts associated with the scheme to be negligible and no further assessment is required.

6 MITIGATION AND RESIDUAL EFFECTS

6.1 Construction Phase

6.1.1 Based on the construction phase assessment results, mitigation will be required for this phase. Mitigation measures highly recommended by the IAQM for a Site with 'Medium' dust risk are presented below:

Communications:

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- 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.
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real-time PM₁₀ continuous monitoring and/or visual inspections.

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 off-site, and the action taken to resolve the situation in the log book.

Monitoring

- Carry out regular site inspections to monitor compliance with the proposed mitigation measures, 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 at least three

months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.

Preparing and maintaining the sites

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is 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

- Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable.
- 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.

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

- Avoid bonfires or burning of waste materials.

Measures Specific to Demolition

- Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- 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 Construction

- 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.

6.1.2 Detailed mitigation measures to control construction traffic should be discussed with the Local Authority to establish the most suitable access and haul routes for the site traffic. The most effective mitigation will be achieved by ensuring that construction traffic does not pass along sensitive roads (i.e., congested roads, residential roads or unsuitable junctions for large vehicles) where possible. Construction vehicles should be kept clean through the use of wheel washers and sheeted when on public highways. Timing of large- scale vehicle movements to avoid peak hours on the local road network would also be of benefit.

6.2 Residual Effects

6.2.1 The residual effects of dust and PM₁₀ generated by construction activities following the application of the mitigation measures described above and good Site practise is considered to be **not significant**.

6.2.2 The residual effects of emissions to air from construction vehicles and plant on local air quality is considered to be **not significant**.

Summary

- 6.2.3 Based on the extent of predicted population exposure to the impacts on pollutant concentrations and the guidance provided by the IAQM, the Proposed Development is expected to result in an overall **negligible** impact associated with the operational phase traffic on nearby receptors, with the overall effect considered to be **not significant**.
- 6.2.4 Predicted concentrations of all pollutants considered are below the relevant objectives without the risk of exceedance at proposed residential receptor locations within the Site boundary.
- 6.2.5 The residual effects of the Proposed Development on air quality are not significant for NO₂, PM₁₀ or PM_{2.5}, according to the EPUK & IAQM assessment criteria.
- 6.2.6 The residual effect of air quality on future occupiers of the Proposed Development is also judged to be **not significant**.

7 AIR QUALITY NEUTRAL ASSESSMENT

7.1 Introduction

- 7.1.1 The London Plan requires that all developments are 'air quality neutral' to ensure proposals do not lead to further deterioration of existing poor air quality. In order to support the policy, guidance²⁷ has been produced on behalf of the GLA. The document provides a methodology for determining potential emissions from a development and benchmark values for comparison purposes. Where the benchmark is exceeded then action is required, either locally or by way of off-setting.
- 7.1.2 The GLA have issued a consultation draft update to the existing guidance. The document²⁸ provides a revised methodology for determining potential emissions from a development and should be used as a material consideration when undertaking an Air Quality Neutral Assessment.
- 7.1.3 The Air Quality Neutral Assessment for the Proposed Development is outlined below.

7.2 Building Emissions

- 7.2.1 The Client has confirmed, following discussions, that they are utilising Air Source Heat Pumps to heat the Proposed Development, with no gas boilers. Therefore, the Proposed Development can be considered air quality neutral from a building perspective, in accordance with the GLA guidance.

7.3 Transport Emissions

- 7.3.1 The Proposed Development is proposing 12 parking spaces. This is just below the maximum residential parking standards for an Outer London development in a Public Transport Access Level 4 area, set out in Table 8.6 of the London Plan. As such, the Proposed Development can be considered air quality neutral from a Transport Emissions perspective, in accordance with the GLA guidance.

7.4 Summary

- 7.4.1 Potential emissions from the Proposed Development were assessed in order to determine compliance with the air quality neutral requirements of The London Plan. The building energy system will utilise Air Source Heat Pumps and the proposed number of parking

²⁷ Air Quality Neutral Planning Support Update: GLA 80371, Air Quality Consultants and Environ, 2014.

²⁸ London Plan Guidance - Air Quality Neutral, GLA, 2023.

spaces are below the threshold level laid out in the London Plan. As such, the proposals can be considered to be air quality neutral from a Transport Emissions perspective and a Building Emissions perspective.

8 SUMMARY AND CONCLUSIONS

- 8.1.1 NoiseAir Limited was commissioned to undertake this AQA in support of planning application at Dower House, Harlington, proposing the restoration of a grade II listed fire damaged building, funded through the construction of up to 18 new dwellings (2-3 bedrooms) to the rear and associated infrastructure including 12 parking spaces.
- 8.1.2 A qualitative assessment of the potential impacts on local air quality from construction activities has been carried out for this phase of the Proposed Development using the IAQM methodology. This identified that there is a maximum of a **Medium** risk of dust soiling impacts and a **Medium** risk of increases in particulate matter concentrations due to unmitigated construction activities. However, through good site practice and the implementation of suitable mitigation measures, the effect of dust and particulate matter releases would be significantly reduced. The residual effects of dust and particulate matter generated by construction activities on air quality are therefore considered to be **not significant**. The residual effects of emissions to air from construction vehicles and plant on local air quality is considered to be **not significant**.
- 8.1.3 Based on the extent of predicted population to the impacts on pollutant concentrations and the guidance provided by the IAQM, the Proposed Development is expected to result in a **negligible** impact associated with the operational phase traffic on nearby receptors and the residual effects are considered to be **not significant**.
- 8.1.4 The results of the qualitative study indicate that concentrations at the Site boundary meet the relevant air quality objectives for NO₂, PM₁₀ and PM_{2.5} for a number of reasons outlined above. The residual effect of air quality on future occupiers of the Proposed Development is judged to be **not significant**.
- 8.1.5 The air quality neutral assessment has identified the Proposed Development is considered to be 'Air Quality Neutral' in relation to both building and transport emissions, in accordance with GLA guidance.
- 8.1.6 As such, it is considered that the Proposed Development complies with national and local policy for air quality.
- 8.1.7 Based on the assessment results, air quality issues are not considered a constraint to planning consent for this proposal.

FIGURES

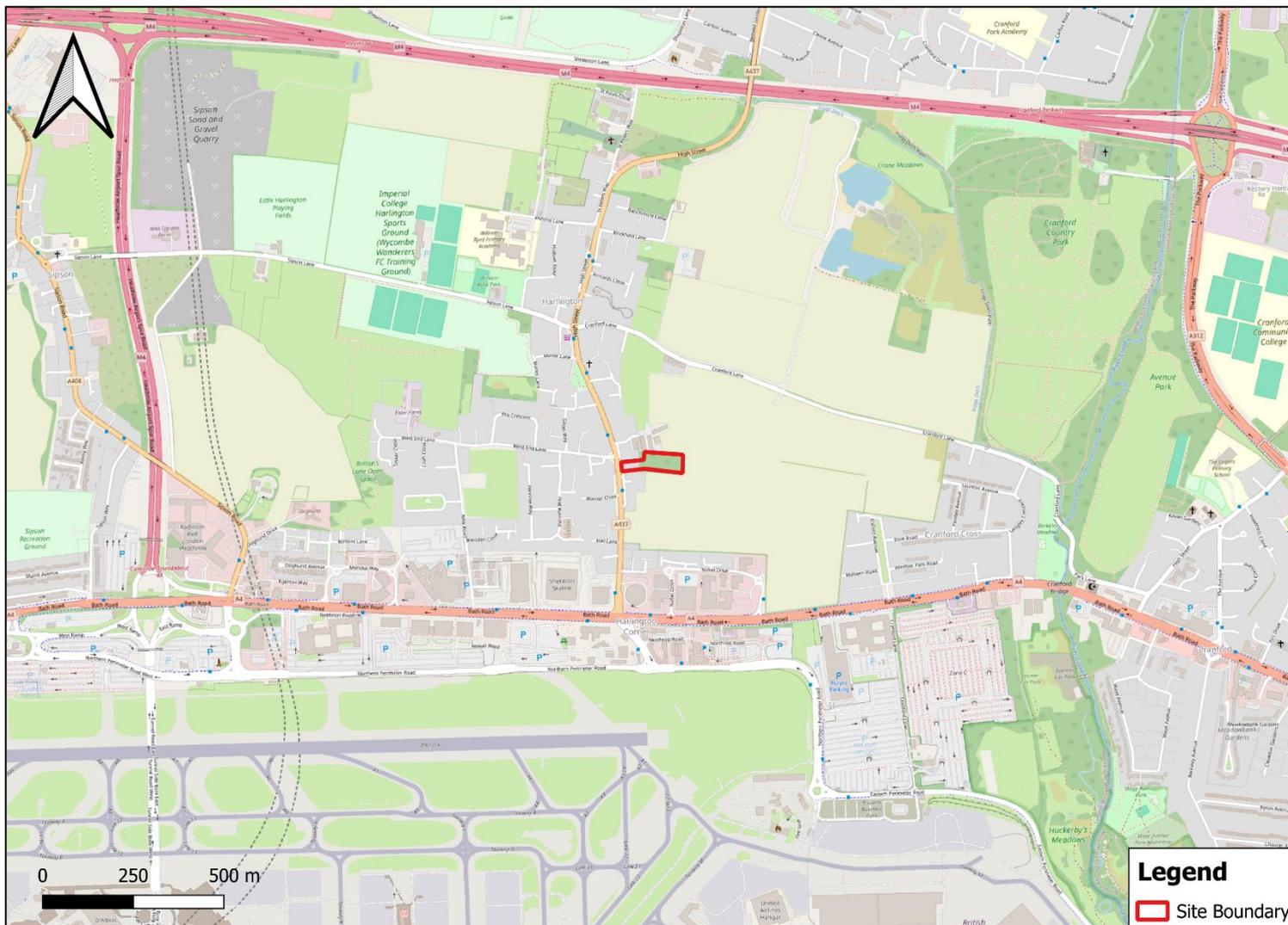


Figure 1 Site Location and Context

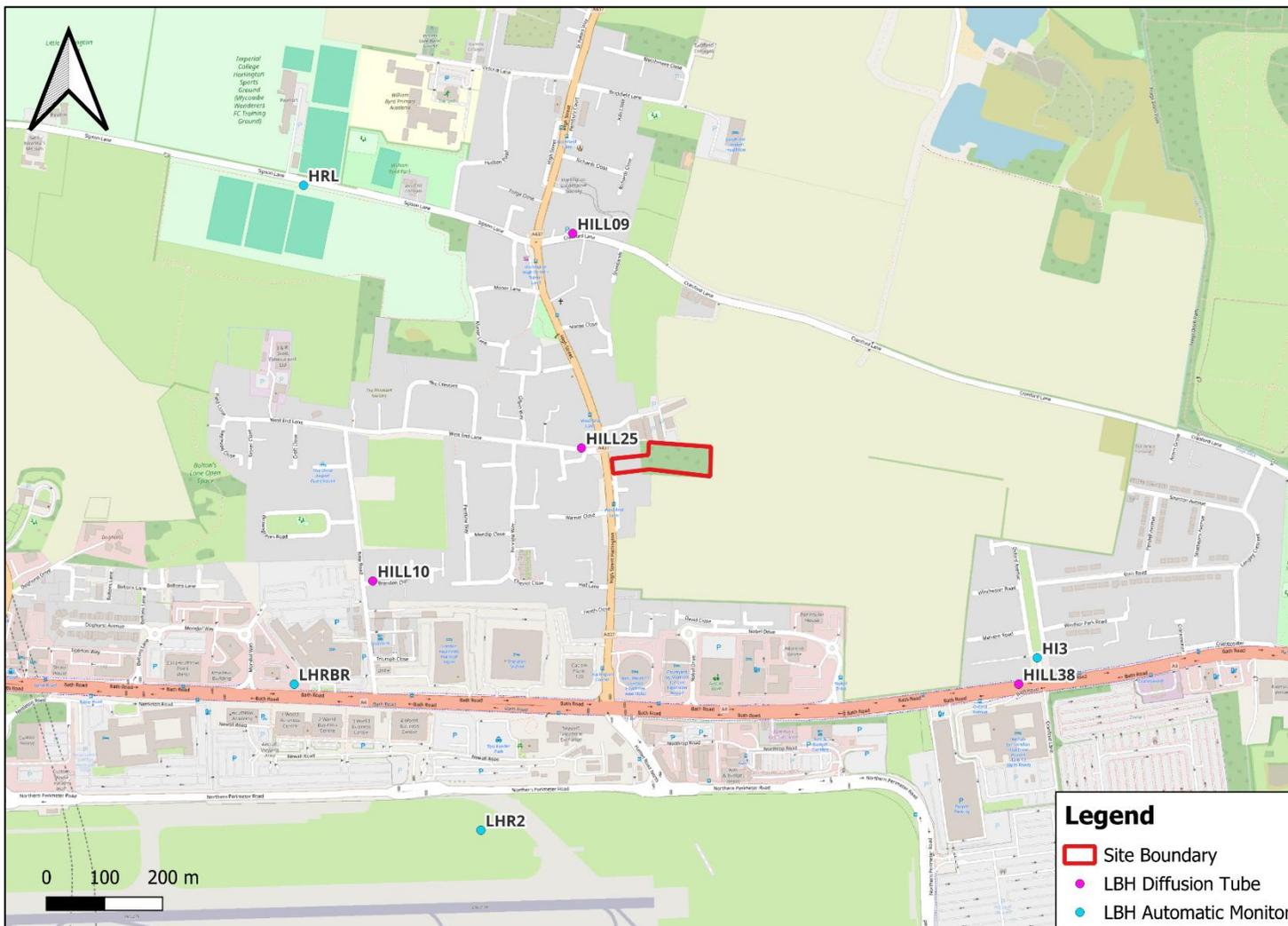


Figure 2 Nearby Monitoring Locations

APPENDIX A – REPORT LIMITATIONS

This Report is presented to Komfort Services and may not be used or relied on by any other person or by the client in relation to any other matters not covered specifically by the scope of this report.

Notwithstanding anything to the contrary contained in the report, NoiseAir Limited is obliged to exercise reasonable skill, care and diligence in the performance of the services required by Komfort Services and NoiseAir shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.

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The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from who it has been requested and that such information is accurate. Information obtained by NoiseAir Limited has not been independently verified by NoiseAir Limited unless otherwise stated in the report and should be treated accordingly.

Where assessments of works or costs identified in this report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

Where / if estimates and projects are made within this report, are made based on reasonable assumptions as of the date of this report, such statements however by their very nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. NoiseAir Limited specifically does not guarantee or warrant any estimates or projects contained in this report.

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APPENDIX B – GLOSSARY

AADT Annual Average Daily Traffic	A daily total traffic flow (24hrs), expressed as mean daily floor across all 365 days of the year.
Adjustment	Application of a correction factor to modelled results to account for uncertainties in the model.
Accuracy	A measure of how well a set of data fits the true value.
Air quality objective	Policy target generally expressed as a maximum ambient concentration to be achieved, either without exception or with the permitted number of exceedances within a specific time scale (see also air quality standard).
Ambient air	Outdoor air in the troposphere, excluding workplace air.
Annual mean	the average (mean) of the concentrations measured for each pollutant for one year.
AQMA	Air Quality Management Area.
AQO	Air Quality Objective.
AURN	Automatic Urban And Rural (air quality) Network, managed by contractors on behalf of Defra.
Conservative	Trending to over predict the impact rather than under predict.
Data Capture	The percentage of all the possible measurements forgiven periods that were validly measured.
Defra	Department for Environment, Food and Rural Affairs.
DfT	Department for Transport
EFT	Emission Factor Toolkit
Emission rate	The quantity of a pollutant released from a source over a given period of time.
EPUK	Environmental Protection (UK)
Exceedance	A period of time where the concentration of a pollutant is greater than the appropriate air quality standard.

HDV/HGV	Heavy Duty Vehicle/Heavy Goods Vehicle.
IAQM	Institute of Air Quality Management.
LAQM	Local Air Quality Management.
Model adjustment	Following model verification, the process by which modelled results are amended. This corrects for systematic error.
NO₂	Nitrogen dioxide.
NO_x	Nitrogen oxides.
PM₁₀	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
Road link	A length of road which is considered to have the same flow of traffic along it. Usually, a link is the road from one junction to the next
µg/m³ micrograms per cubic metre	A measure of concentration in terms of mass per unit volume. A concentration of 1µg/m ³ means that one cubic metre of air contains one microgram (millionth of a gram) of a pollutant.

APPENDIX C – LONDON SPG SCREENING CRITERIA AND IAQM CONSTRUCTION DUST ASSESSMENT METHODOLOGY

London SPG Screening Criteria and IAQM Construction Dust Assessment Methodology

Step 1 – Screening the Need for a Detailed Assessment

An assessment will normally be required where there are:

- ‘human receptors’ within 50 m of the site boundary; or within 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s); and/ or
- ‘ecological receptors’ within 50 m of the site boundary; or within 50 m of the route(s) used by construction vehicles on the public highway up to 500 m from the site entrance(s)

Where the need for more detail assessment is screened out, it can be concluded that the level of risk is ‘negligible’.

Step 2a – Define the Potential Dust Emission Magnitude

The following are examples of how the potential dust emission magnitude for different activities can be defined. Note that not all criteria need to be met for a particular class. Other criteria can be justified within the assessment.

Table C1: Construction Dust - Magnitude of Emission		
Magnitude	Activity	Criteria
Large	Demolition	<ul style="list-style-type: none"> - Total volume of building to be demolished greater than 75,000 m³. - Potentially dusty material (e.g., concrete). - On-site crushing and screening. - Demolition activities more than 12m above ground level.
	Earthworks	<ul style="list-style-type: none"> - Total site area greater than 110,000m². - Potentially dusty soil type (e.g., clay, which will be prone to suspension when dry due to small particle size). - More than 10 heavy earth moving vehicles active at any one time. - Formation of bunds greater than 6m in height.
	Construction	<ul style="list-style-type: none"> - Total building volume greater than 75,000 m³. - On site concrete batching. - Sandblasting.

Table C1: Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
	Trackout	<ul style="list-style-type: none"> - More than 50 Heavy Duty Vehicle (HDV) outward movements in any one day. - Potentially dusty surface material (e.g., high clay content). - Unpaved road length greater than 100m.
Medium	Demolition	<ul style="list-style-type: none"> - Total volume of building to be demolished between 12,000 m³ and 75,000 m³. - Potentially dusty construction material. - Demolition activities 6m to 12m above ground level.
	Earthworks	<ul style="list-style-type: none"> - Total site area 18,000m² to 110,000 m². - Moderately dusty soil type (e.g., silt). - 5 to 10 heavy earth moving vehicles active at any one time. - Formation of bunds 3m to 6m in height.
	Construction	<ul style="list-style-type: none"> - Total building volume 12,000m³ to 75,000m³. - Potentially dusty construction material (e.g., concrete). - On site concrete batching.
	Trackout	<ul style="list-style-type: none"> - 20 to 50 HDV trips per day. - Moderately dusty surface material (e.g., high clay content). - Unpaved road length 50m to 100m.
Small	Demolition	<ul style="list-style-type: none"> - Total volume of building to be demolished less than 12,000 m³. - Construction material with low potential for dust release (e.g., metal cladding or timber). - Demolition activities less than 6m above ground and during wetter months.
	Earthworks	<ul style="list-style-type: none"> - Total site area less than 18,000 m². - Soil type with large grain size (e.g., sand). - Less than 5 heavy earth moving vehicles active at any one time. - Formation of bunds less than 3m in height.
	Construction	<ul style="list-style-type: none"> - Total building volume less than 12,000 m³.

Table C1: Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
		- Construction material with low potential for dust release (e.g., metal cladding or timber).
	Trackout	- Less than 20 HDV trips per day. - Surface material with low potential for dust release. - Unpaved road length less than 50 m.

Step 2b – Define the Sensitivity of the Area

The tables below present the IAQM assessment methodology to determine the sensitivity of the area to soiling, human health and ecological impacts respectively. The IAQM guidance provides guidance to allow sensitivity of individual receptors to soiling and health effects to assist in the assessment of the overall sensitivity of the study area.

Table C2: Sensitivity of the Area to Dust Soiling Effects

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table C3: Sensitivity of the Area to Dust Soiling Effects

Receptor Sensitivity	Annual Mean PM ₁₀ Concentrations (µg/m ³)	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	>32	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	28-32	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	24-28	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	<24	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	>32	>10	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	28-32	>10	Medium	Low	Low	Low

Table C3: Sensitivity of the Area to Dust Soiling Effects						
Receptor Sensitivity	Annual Mean PM ₁₀ Concentrations (µg/m ³)	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
	<24	1-10	Low	Low	Low	Low
		>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low

Table C4: Sensitivity of the Area to Ecological Impacts		
Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Step 2c – Define the Risk of Impacts

The dust emissions magnitude determined in Step 2A should be combined with the sensitivity of the area determined at Step 2B to determine the risk of impacts without mitigation applied. For those cases where the risk category is ‘negligible’ no mitigation measures beyond those required by legislation will be required.

Table C5: Risk of Dust Impacts			
Sensitivity of Surrounding	Dust Emission Magnitude		
	Large	Medium	Small
Demolition			
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
Earthworks and Construction			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Trackout			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Step 3 – Site Specific Mitigation

Having determined the risk categories for each of the four activities it is possible to determine the site- specific measures to be adopted. These measures will be related to whether the site is

considered to be a low, medium or high risk Site. The IAQM guidance details the mitigation measures required for low, medium and high risk sites as determined in Step 2C.

Step 4 – Determine Significant Effects

Once the risk of dust impacts has been determined in Step 2C under the appropriate dust mitigation measures identified in Step 3, the final step is to determine whether there are significant effects arising from the construction phase. For almost all construction activities, the application of effective mitigation should prevent any significant effects occurring at sensitive receptors, the residual effects will normally be negligible.

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