LONDON BOROUGH OF HILLINGDON

London Borough Of Hillingdon

Avondale Drive Estate, Avondale Drive, Hayes, London, UB3 3PN

AIR QUALITY ASSESSMENT: ADDENDUM

Report Ref - 2506740

October 2025

HEAD OFFICE: 3rd Floor, The Hallmark Building, 52-56 Leadenhall Street, London, EC3M 5JE **T** | 020 7680 4088
EDINBURGH: Suite 35 4-5 Lochside Way Edinburgh EH12 9DT **T** | 0131 516 8111
ESSEX: 1 - 2 Crescent Court, Billericay, Essex, CM12 9AQ **T** | 01277 657 677
KENT: Suite 10, Building 40, Churchill Business Centre, Kings Hill, Kent, ME19 4YU **T** | 01732 752 155
MIDLANDS: Office 3, The Garage Studios, 41-43 St Mary's Gate, Nottingham, NG1 1PU **T** | 0115 697 0940
SOUTH WEST: Temple Studios, Bristol, England, BS1 6QA **T** | 0117 456 4994
SUFFOLK: Suffolk Enterprise Centre, 44 Felaw Street, Ipswich, IP2 8SJ **T** | 01473 407 321
MANCHESTER: Chancery Place, 50 Brown Street, Manchester, M2 2JG **T** | 020 7680 4088

Email: enquiries@ardent-ce.co.uk; airquality@ardent-ce.co.uk

Contents

Appendices

Figures

Tables

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	DRAFT	TA	TA	MC	19/09/25
-	FINAL	TA	TA	MC	22/09/25
1	REVISION	TA	TA	MC	03/10/25
2	REVISION	TA	TA	MC	28/10/25

Mark Chapman

Distribution

This report has been prepared for the exclusive use of **LONDON BOROUGH OF HILLINGDON**. It should not be reproduced in whole or in part, or relied upon by third parties, without the express written authority of Ardent Consulting Engineers.

Statement of Competence

The following authors of this report are Members of the Institute of Air Quality Management (IAQM) and possess the requisite qualifications, expertise, and experience to conduct robust air quality assessments and analyses in accordance with regulatory standards and best practices.

Assessor Name	Tess Aiteouakrim
Title	Graduate Air Quality Consultant
Qualifications	AMIAQM AMIEnvSc
Experience	BSc Environmental Science

Supervisor Name	Mark Chapman
Title	Technical Director (Air Quality)
Qualifications	CEnv MIAQM MIEnvSc
Experience	MSc Air Pollution Management and Control MSc Environmental Impact Assessment, Auditing and Management Systems BSc Science and the Environment

1 Introduction

1.1 This Air Quality Assessment Addendum, prepared by Ardent Consulting Engineers on behalf of London Borough of Hillingdon, supports a Section 73 application for the redevelopment of Avondale Drive Estate (UB3 3NR).

Previous Application and Air Quality Assessment Work

1.2 An AQA (ACE, 2021) was undertaken by ACE in November 2021 as part of the previous planning application for the Site (planning ref: 76550/APP/2021/4499).

1.3 The proposal comprised of the following:

> *"Development in outline (with all matters reserved) for residential floorspace (Class C3) to comprise: demolition of all existing buildings and structures; erection of new buildings; provision of a community centre (up to 140 sqm of Use Class F2(b) floorspace); new pedestrian and vehicular access; associated amenity space, open space, landscaping; car and cycle parking spaces; plant, refuse storage, servicing area and other works incidental to the proposed development; and*
>
> *Detailed planning consent for Blocks A and B comprising 80 residential units (Class C3); new pedestrian and vehicular access; associated amenity space and landscaping; car and cycle parking; refuse storage, servicing area, and other associated infrastructure to include temporary highways and landscaping works".*

1.4 The AQA determined that following the implementation of appropriate mitigation, the overall residual effects of the Proposed Development would be 'Negligible' and not significant.

1.5 In March 2022, an AQA Addendum in support of a Non-material Amendment Application was commissioned, to amend condition 3 (Drawings) of application reference 76550/APP/2021/4499, dated 28/09/2022.

1.6 The proposal for the Non-Material Amendment Application comprised of the following:

> *"Non-Material Amendment Application submitted under Section 96A of the Town and Country Planning Act 1990 (as amended), to amend condition 3 (Drawings) of application reference 76550/APP/2021/4499, dated 28-09-2022, which is for a Hybrid planning application seeking OUTLINE permission (with all matters reserved) for residential floorspace (Class C3) including demolition of all existing buildings and structures; erection of new buildings; provision of a community centre (up to 140sq.m of Use Class F2(b) floorspace); new pedestrian and vehicular access; associated amenity space, open space, landscaping; car and cycle parking spaces; plant, refuse storage, servicing area and other works incidental to the proposed development;*
>
> *and FULL planning permission for Blocks A and B comprising 80 residential units (Class C3); new pedestrian and vehicular access; associated amenity space and landscaping; car and cycle parking; refuse storage, servicing area, and other associated infrastructure to include temporary highways and landscaping works. The proposed amendments only affect Phase 1 and comprise the following: - Amendment of ground floor height by +200mm. - Internal alterations to the ground floor layout to improve ventilation, structural integrity, and obstruction free use. - Increasing roof build to accommodate the required depth of structure and falls for rainwater collection. - Minor re-organisation of dwelling layouts to improve the internal arrangement. - Minor adjustments to the spacing of balconies, fenestration, and facade detailing."*

Current Application

1.7 The Avondale Drive Estate is situated in Hayes, between Avondale Drive and Hitherbroom Park, within an established residential neighbourhood. Its proximity to schools, parks, and extensive open fields with sports facilities renders it a suitable location for family housing. The approved redevelopment proposals include the demolition of three existing council tower blocks and the delivery of approximately 240 new homes, alongside a new pocket park, associated landscaping, and podium parking.

1.8 The extant consent is a hybrid planning permission, with a detailed element (Phase 1a) comprising a 30 home residential block (Block A) and an outline element (Phase 1b and Phase 2) with all matters reserved. Following the discharge of relevant planning conditions and the approval of a number on non-material amendment applications, Block A is now complete on site, with handover anticipated in September 2025.

1.9 This Section 73 application seeks to revise specific conditions of the original planning consent (reference 76551/APP/2021/4502), including conditions 3 (approved plans), 4 (approved documents), 5 (land use/quantum), 6 (housing mix), 7 (phasing plan), 9 (density), and 10 (building heights).

1.10 The proposed Section 73 application encompass the following key changes to the outline area:

- An increase of 56 residential units overall, including an uplift of 33 affordable homes.
- Removal of the existing parking court and an increase in podium size, intended to enhance active frontages along Avondale Drive and improve site security.
- A revised height strategy to establish a lower-level frontage along Avondale Drive and mitigate overshadowing impacts on Hitherbroom Park.
- Deletion of vehicle access around Phase 1B, aimed at improving the quality of the public realm.
- Increased separation distances between Phases 1B and 2 to create a new public square, facilitating the relocation of playspace to a safer, off-road position.

Scope

1.11 The main air pollutants of concern related to the demolition and construction phase are dust and particulate matter (PM_{10}) from on-Site demolition and construction activities and as a result of material tracked out by demolition and construction vehicles, as well as emissions of nitrogen dioxide (NO_2), PM_{10} and $PM_{2.5}$ from demolition and construction vehicles.

1.12 The main air pollutants of concern related to operational traffic generated by the Proposed Development are emissions of NO_2, PM_{10} and $PM_{2.5}$ which may potentially impact on existing properties, and emissions of nitrogen oxides (NO_x), NO_2 and ammonia (NH_3) which may potentially impact on ecological sites. The air pollutants of concern in terms of the suitability of the Site for its proposed use during the operational phase are NO_2, PM_{10} and $PM_{2.5}$.

1.13 The energy strategy associated with the Proposed Development will comprise air-source heat pumps (ASHPs) and / or water-source heat pumps (WSHPs) and photovoltaic (PV) panels, which will not have any associated on-Site emissions. As such, the potential impact of the proposed energy strategy on Air Quality can be screened out as being 'not significant.'

1.14 An assessment has been carried out to determine whether the development is 'air quality neutral' in terms of transport and building emissions.

1.15 In addition to address the current application proposals, this Air Quality Assessment Addendum also addresses:

- Construction and demolition assumptions
- Baseline air quality conditions
- Background pollutant concentrations
- Emission forecasts
- Monitoring approach
- Meteorological dataset
- Dispersion modelling
- Traffic data
- Updated Air Quality Neutral assessment

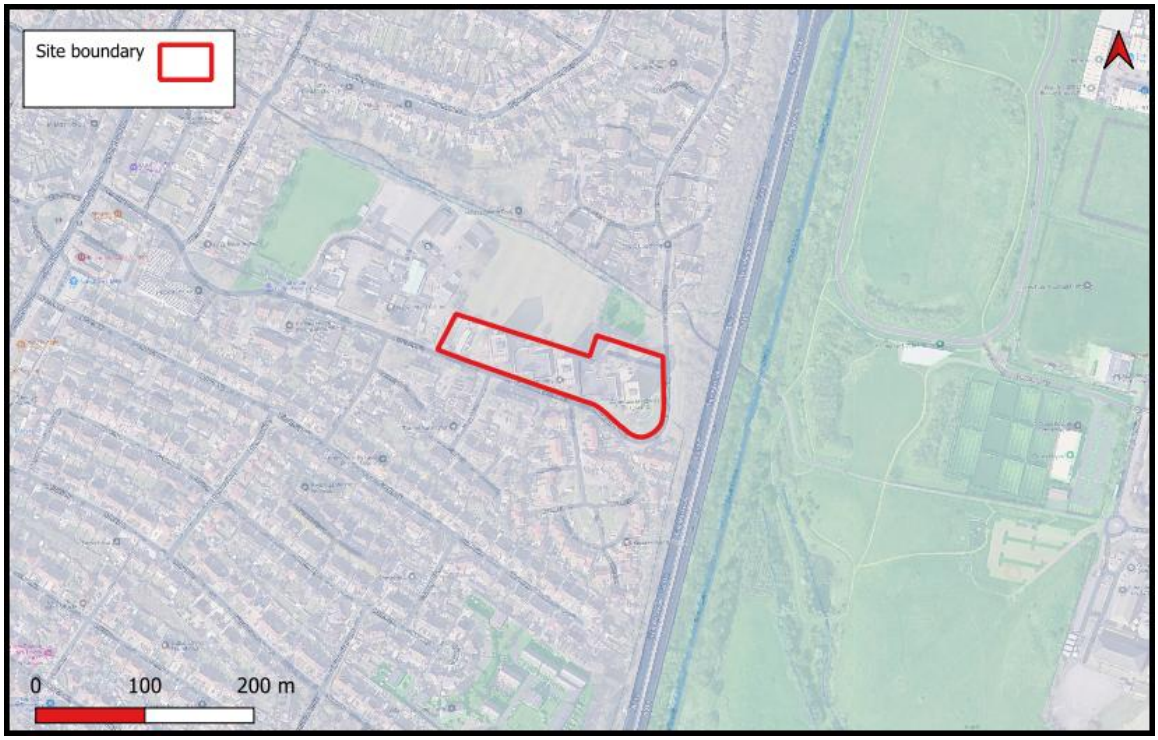


Figure 1-1: Site Location

2 Approach

2.1 The approach to preparing an AQA in the UK typically involves the following steps:

Screening and Scoping

2.2 Screening identifies if an AQA is needed by evaluating potential emissions and their likely impacts. This involves considering the type and scale of the project and its proximity to sensitive receptors (e.g., residential areas, schools, hospitals).

2.3 Scoping then defines the scope of the assessment, including the pollutants to be considered, the geographical area to be covered, and the receptors to be included.

2.4 The relevant screening assessment is provided below, followed by the scope of assessment determined to be required to appropriately assess the potential Air Quality impacts and effects of the Proposed Development.

Screening

Construction Phase

Fugitive Dust Emissions: Impact

2.5 The construction phase of the Proposed Development has the potential for fugitive dust emissions to occur owing to construction phase activities, such as demolition, earthworks, construction and trackout activities.

2.6 The potential for impacts at sensitive locations of relevant exposure depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.

2.7 The desk-study undertaken to inform the baseline (see section 4) identifies several sensitive receptors within 250m of the red line boundary of the Site. As such, further assessment of potential dust impacts has been undertaken (see Appendix A for the construction phase methodology).

Construction Traffic Emissions: Impact

2.8 The Institute of Air Quality Management (IAQM) advise that from experience of assessing exhaust emissions from Site traffic, it is unlikely that any significant adverse impacts on local Air Quality would be caused, and in most cases, quantitative assessment is not needed.

2.9 In this case, the transport consultants advised that the predicted total construction traffic associated with the Proposed Development will not exceed the minimum thresholds that require detailed assessment (see Table 2-1). As such, effects of construction traffic emissions have been screened out.

Operation Phase

Road Traffic Emissions: Impact (Human Health)

2.10 The Proposed Development has been screened against the following indicative criteria for requiring an AQA as detailed in the EPUK & IAQM 'Land use Planning & Development Control: Planning for Air Quality, V1.2' guidance:

Table 2-1: EPUK & IAQM Indicative Criteria for Requiring Detailed Assessment

Criteria	Evaluation
A change in Light-Duty Vehicle traffic flows of more than 100 Annual Average Daily Traffic (AADT) within or adjacent to an Air Quality Management Area (AQMA), or more than 500 AADT elsewhere on local roads with relevant receptors.	Yes
A change in Heavy-Duty Vehicle (HDV) flows of more than 25 AADT within or adjacent to an AQMA, or more than 100 AADT elsewhere on local roads with relevant receptors.	No
A change in the alignment of roads by 5m or more and the road is within an AQMA.	No
Introduction of a new junction or remove an existing junction that cause traffic to significantly change vehicle accelerate/decelerate, e.g., traffic lights, or roundabouts, near to relevant receptors.	No
Introduce or change a bus station, where bus flows will change by more than 25 AADT within or adjacent to an AQMA, or more than 100 AADT elsewhere.	No
Has an underground car park with an extraction system within 20 m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).	No

Criteria	Evaluation
Has one or more substantial combustion processes, including combustion plant associated with standby emergency generators (typically associated with centralised energy centres) and shipping, where there is a risk of impacts at relevant receptors.	No

2.11 The transport consultants have confirmed that the Proposed Development will increase two-way AADT movements exceeding the EPUK & IAQM screening criteria above on a number of road links in the Site locale.

2.12 Therefore, detailed modelling of operational traffic impacts has been carried out using the ADMS-Roads dispersion model. Further details of the modelling data inputs and results processing is provided in Appendix B.

2.13 The magnitude of impacts has been determined using the criteria set out within the EPUK & IAQM Air Quality planning guidance, as set out in Table 2-2.

Table 2-2: IAQM Impact Descriptors for Individual Receptors

Annual Mean Concentration	% Change [a]			
	1[b]	2-5	6-10	>10
≤ 75%	Negligible	Negligible	Slight	Moderate
≤ 76% - ≤ 95%	Negligible	Slight	Moderate	Moderate
≤ 96% - ≤ 102%	Slight	Moderate	Moderate	Substantial
≤ 103% - ≤ 110%	Moderate	Moderate	Substantial	Substantial
≥110%	Moderate	Substantial	Substantial	Substantial

[a] In relation to an AQAL

[b] % change rounded to nearest whole number. Where the change is 0 (i.e. <0.5) the impact will be Negligible.

2.14 When considered at individual receptors, moderate or substantial impacts may be considered significant and Negligible or slight impacts not significant.

2.15 Consideration of the overall effect on Air Quality needs to incorporate consideration of impacts as a whole, including the extent to which receptors represent sensitive locations and whether this wider impact is significant or not.

2.16 The assessment of overall significance is therefore made based on professional judgement, considering factors such as:

- The number of properties affected by different levels of impacts;
- The magnitude of any changes and descriptors (as identified in stages 1 and 2);
- Whether a new exceedance of an Air Quality Assessment Level ((AQAL) – see Table 3-1) is predicted to arise, or an existing exceedance is removed, or an existing exceedance is substantially increased or reduced;
- The level of uncertainty, including the extent to which worst-case assumptions have been made; and
- The extent of any exceedance of an AQAL.

2.17 Additional factors are also included in the assessment of significance, including the spatial extent of adverse impacts, in accordance with EPUK & IAQM guidance, which states:

> *"An individual property exposed to a moderately adverse impact might not be considered a significant, but many hundreds of properties exposed to a slight adverse impact could be."*

Road Traffic Emissions: Impact (Sensitive Ecology)

2.18 There is one major ecological receptor within 2km of the Site locale:

- Yeading Meadows

2.19 The requirement for further assessment has first been considered against a screening threshold of 200m from a road (the Affected Road Network (ARN)), in accordance with IAQM guidance, which states if there are no qualifying features sensitive to air pollution within 200m of a road, then no further assessment is required.

2.20 The closest points of the Yeading Meadow ecological sites are not located within 200m from the ARN, and on this basis, no further assessment has been undertaken, as a screening conclusion of no likely significant effect on the Site Road Traffic Emissions: Exposure / Site Sensitivity.

2.21 The Proposed Development will introduce new receptors which are sensitive to the long-term and short term nitrogen dioxide (NO_2) and Particulate Matter (PM_{10} and $PM_{2.5}$) AQALs. As such, detailed consideration has been given to potential exposure at the Site in the Do Something scenario.

2.22 With regard to the exposure assessment, professional judgement has been applied to determine whether exposure to air pollution is significant or not, based on the following criteria:

- Annual mean concentrations within 10% below or exceeding relevant AQAL = significant exposure;
- Annual mean concentrations more than 10% below relevant AQAL = not significant.

2.23 The 10% threshold around an AQAL is generally considered to be the range at which a 'risk of exceedance' is present, according to LAQM.TG (22).

Combustion Plant Emissions: Impacts

2.24 No known combustion plant is incorporated into the design of the Proposed Development. Therefore, no further consideration of combustion plant emissions has been undertaken.

Scope

Scoped In

2.25 The following elements have been included with the scope of the AQA due to the screening assessment identifying a risk of potential effects requiring further assessment:

1. Construction Phase
    a. Construction Activities (Impacts)
        i. Dust, PM_{10}

2. Operation Phase
    a. Operation Traffic Emissions (Impacts)
        i. Human Health
            A. NO_2, PM_{10}, $PM_{2.5}$
    b. Road traffic emissions (Exposure)
        i. NO_2, PM_{10}, $PM_{2.5}$

Scoped Out

2.26 The following elements have been excluded from the detailed scope of the AQA based on the outcome of the screening assessment:

1. Construction Phase
    a. Construction Traffic Emissions (Impacts)

2. Operation Phase
    a. Combustion Plant Emissions (Impacts)
        i. NO_2, PM_{10}, $PM_{2.5}$
        ii. Ecology
            A. Oxides of nitrogen (NO_x), Ammonia (NH_3), nitrogen deposition, acid deposition

3 Policy, Legislation, and Guidance

3.1 To inform the assessment the following Policy, Legislation, and guidance have been considered:

National Policy

National Planning Policy

National Planning Policy Framework

3.2 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The purpose of the planning system is to contribute to the achievement of sustainable development. To ensure this, the NPPF recognises three overarching objectives, including the following of relevance to Air Quality:

"Chapter 2 Achieving sustainable development

Para. 8

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."

3.3 Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. It states that:

"Chapter 15 Conserving and enhancing the natural environment

Para. 187

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

[…]

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;"

3.4 The NPPF specifically recognises Air Quality as part of delivering sustainable development and states that:

"Ground conditions and pollution

Para. 198

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

…"

"Para. 199

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."

3.5 The implications of the NPPF have been considered throughout this assessment.

Local Planning Policy

Hillingdon Local Plan 2012-2026

3.6 The Hillingdon Borough Local Plan 2012-2036 was adopted in Novemebr 2012. It sets out the policies and plans to guide future development to 2026. It is used to determine planning applications in the Borough.

3.7 Policy EM8 (Land, Water, Air and Noise) is relevant for Air Quality, and states:

> *"All development should not cause deterioration in the local air quality levels and should ensure the protection of both existing and new sensitive receptors. All major development within the Air Quality Management Area (AQMA) should demonstrate air quality neutrality (no worsening of impacts) where appropriate; actively contribute to the promotion of sustainable transport measures such as vehicle charging points and the increased provision for vehicles with cleaner transport fuels; deliver increased planting through soft landscaping and living walls and roofs; and provide a management plan for ensuring air quality impacts can be kept to a minimum.*
>
> *The Council seeks to reduce the levels of pollutants referred to in the Government's National Air Quality Strategy and will have regard to the Mayor's Air Quality Strategy. London Boroughs should also take account of the findings of the Air Quality Review and Assessments and Actions plans, in particular where Air Quality Management Areas havebeen 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. The Council may therefore require new major development in an AQMA to fund additional air quality monitoring stations to assist in managing air quality improvements."*

Local Air Quality Management

3.8 Under Section 82 of the Environment Act (1995) (Part IV), as amended by the Environment Act (2021), local authorities (Councils) are required to periodically review and assess Air Quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM).

3.9 This Review and Assessment of Air Quality involve comparing present and likely future pollutant concentrations against the AQALs. If it is predicted that levels at locations of relevant exposure, as summarised in Table 3-2, are likely to be exceeded, the Council is required to declare an AQMA. For each AQMA the Council is required to produce an Air Quality Action Plan (AQAP), the objective of which is to reduce pollutant concentrations in pursuit of compliance with the AQALs.

National Legislation

3.10 There are two sets of Air Quality legislation which include ambient Air Quality thresholds for the protection of public health that apply in England, these include legally binding Limit Values originally set by the European Union (EU) Directive on ambient Air Quality and cleaner air for Europe (2008/50/EC) (which were transposed into UK law through the Air Quality Standards Regulations 2010), and regulations implementing national Air Quality objectives as set out in the Air Quality Strategy (AQS) 2023 for England which local authorities are required to work towards achieving.

3.11 The AQS sets out the Government's policies and framework for improving Air Quality in the UK with the aim of meeting the requirements of the 2008/50/EC Directive. The AQS also outlines the Limit Values, Target Values, Standards, Objectives, Critical Levels, and Exposure Reduction Targets for the protection of human health and the environment.

3.12 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 also brought forward a new target level for $PM_{2.5}$.

3.13 The relevant Limit Values, Target Values, Standards, Objectives, Critical Levels and Exposure Reduction Targets are collectively termed AQALs throughout this report.

Table 3-1: Air Quality Assessment Levels (AQALs)

Pollutant	AQAL	
	Concentration (µg/m³)	Averaging Period
NO_2	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
$PM_{2.5}$	20	Annual mean
	12	Annual Mean Interim Target (to be met across England by 2028)
	10	Annual Mean Concentration Target (AMCT) - To be met across England by 2040
	-	Population Exposure Reduction Target (PERT) - 35% reduction in population exposure by 2040 (compared to a base year of 2018)

3.14 With specific reference to the AMCT for $PM_{2.5}$, it should be noted that that the date for compliance is 2040. The applicable $PM_{2.5}$ AQAL for the purposes of this assessment is therefore the current AQAL of 20µg/m³.

3.15 In line with the Defra "$PM_{2.5}$ Interim Planning guidance on the consideration of the Environment Act $PM_{2.5}$ targets in planning decisions" the operation phase assessment will also aim to consider the 2040 AMCT for $PM_{2.5}$, identify key sources of $PM_{2.5}$ air pollution from the Proposed Development, and outline the measures proposed to minimise emissions of $PM_{2.5}$ and its precursors as far as is reasonably practicable.

Guidance

National Guidance

National Planning Practice Guidance

3.16 Reference ID 32 (Air Quality) of the National Planning Practice Guidance (NPPG), which was updated in November 2019, provides guiding principles on how planning can take account of the impact of new development on Air Quality. The NPPG summarises the importance of Air Quality in planning and the key legislation relating to it.

Defra Technical Guidance

3.17 Table 3-2 summarises the advice provided in Defra's Local Air Quality Management Technical guidance 2022 (LAQM.TG (22)) on where the AQALs for pollutants considered within this report apply.

Table 3-2: Examples of Where the Air Quality Objectives Apply

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes, etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties.	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.

Non-statutory guidance

3.18 The following guidance documents have been reviewed / followed / referred to in preparing this AQA:

- The EPUK & IAQM 'Land use Planning & Development Control: Planning for Air Quality', (2017 V1.2);
- The IAQM's 'Assessment of dust from demolition and construction' (2024 V2.2);

Regional Policy

The London Plan

3.19 In London, a London Plan has been developed (Mayor of London, 2021). This includes a number of references to Air Quality; however, these are all incorporated into Policy SL1: Air Quality, which states:

"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.

To tackle poor Air Quality, protect health and meet legal obligations the following criteria should be addressed:

Development proposals should not:

- *lead to further deterioration of existing poor Air Quality;*
- *create any new areas that exceed Air Quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits;*
- *create unacceptable risk of high levels of exposure to poor Air Quality.*

In order to meet the requirements in Part 1, as a minimum:

- *development proposals must be at least Air Quality Neutral*
- *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 retro-fitted mitigation measures*
- *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*
- *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.*

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 positive approach. To achieve this a statement should be submitted demonstrating:

- *how proposals have considered ways to maximise benefits to local Air Quality, and*
- *what measures or design features will be put in place to reduce exposure to pollution, and how they will achieve this.*

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.

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, offsite 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.

The London Environment Strategy

3.20 The London Environmental Strategy (Mayor of London, 2018) considers policies aimed at improving the environment in London, across a number of different areas such as Air Quality, noise and climate change.

3.21 There are a number of objectives but notable in relation to Air Quality is the objective:

"for London to have the best Air Quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities."

3.22 Chapter 4 of the Environmental Strategy relates specifically to Air Quality and identifies a number of key issues to be addressed:

- Achieving legal compliance as quickly as possible;
- Diesel vehicles, especially cars and vans;
- Tackling all sources of pollution;

- Government action;
- Maximising co-benefits between Air Quality and climate change policies; and
- Further reductions are needed in PM_{10} and $PM_{2.5}$, particularly from transboundary pollution, tyre and brake wear and wood burning.

Local Policy

3.23 Part 1 of the Hillingdon Local Plan was adopted in 2012 (LBH, 2012) and is the key strategic planning document for LBH, setting out a long-term spatial vision and objectives for the Borough.

3.24 The Local Plan identifies as a main planning challenge for Hillingdon "*The need to mitigate Air Quality impacts especially around the strategic road network and Heathrow Airport, in order to work towards achievement of both national and European Union standards at relevant locations and improve the local Air Quality for communities*". Part 1 of the Local Plan also includes the following three relevant Strategic Policies:

"Policy EM1 'Climate Change Adaption and Mitigation' states that "The Council will ensure that climate change mitigation is addressed at every stage of the development process by:…

…Promoting the use of decentralised energy within large scale development whilst improving local Air Quality levels;

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 emissions reductions…";

Policy EM8 'Land, Water, Air and Noise' states that "…All development should not cause deterioration in the local Air Quality levels and should ensure the protection of both existing and new sensitive receptors.

All major development within the Air Quality Management Area (AQMA) should demonstrate air quality neutrality (no worsening of impacts) where appropriate; actively contribute to the promotion of sustainable transport measures such as

vehicle charging points and the increased provision for vehicles with cleaner transport fuels; deliver increased planting through soft landscaping and living walls and roofs; and provide a management plan for ensuring Air Quality impacts can be kept to a minimum.

The Council seeks to reduce the levels of pollutants referred to in the Government's National Air Quality Strategy and will have regard to the Mayor's Air Quality Strategy. London Boroughs 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. The Council may therefore require new major development in an AQMA to fund additional Air Quality monitoring stations to assist in managing Air Quality improvements."; and

Policy B1 'Built Environment' states that "The Council will require all new development top 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:…Maximise the opportunities for all new homes to contribute to…reducing emission of local Air Quality pollutants…".

3.25 Part 2 of the Local Plan (LBH, 2020) with the purpose of providing detailed policies that will form the basis of the Council's decisions on individual planning applications. The Local Plan includes the following six relevant policies:

- Policy DMEI1 'Living Walls and Roofs and On-Site Vegetation' states that "*All development proposals are required to comply with the following:…*

  …Major development in Air Quality Management Areas must provide on-site provision of living roofs and / or walls. A suitable offsite contribution may be required where on-site provision is not appropriate.";

- Policy DMEI 3 'Decentralised Energy' states that "*…The Council will support the development of DENs [Decentralised Energy Networks] and energy*

centres in principle, subject to meeting the wider policy requirements of this plan and in particular on design and Air Quality";

- Policy DMEI 7 'Biodiversity Protection and Enhancement' states *that "If development is proposed on or near to a Site considered to have features of ecological or geological value, applicants must submit appropriate surveys and assessments to demonstrate that the Proposed Development will not have unacceptable effects…".*

- Policy DMEI 14 'Air Quality' states that

  "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.

  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";

- Policy DMT 1 'Managing Transport Impacts' states that *"Development proposals will be required to meet the transport needs of the development and address its transport impacts in a sustainable manner. In order for developments to be acceptable they are required to … have no significant adverse transport or associated Air Quality…impacts on the local and wider environment, particularly on the strategic road network.";* and

- Policy DMT 2 'Highway Impacts' states that "*Development proposals must ensure that … they do not contribute to the deterioration of Air Quality…or local amenity…of all road users and residents".*

LBH AQAP

3.26 Under LLAQM (Mayor of London, 2019), LBH are required to regularly review and assess Air Quality within the Borough and determine whether or not the Air Quality objectives are likely to be achieved.

3.27 In September 2003, LBH declared an AQMA (the Hillingdon AQMA) as a result of exceedances of the annual mean NO_2 objective. The Hillingdon AQMA encompasses the area from the southern boundary of the Borough to the border defined by the A40 corridor.

3.28 Following the declaration of the LBN AQMA, an AQAP was developed in order to tackle poor Air Quality in the Borough. LBN's most recent AQAP covers the period from 2019 to 2024 (LBH, 2019) and outlines actions that will be taken to improve Air Quality within the Borough. Actions developed fall under the following seven broad themes: Monitoring and other core statutory duties, Emissions from developments and buildings, Public health and awareness raising, Delivery servicing and freight, Borough fleet actions, Localised solutions and cleaner transport.

Assessment Guidance

3.29 This assessment has been based on a number of guidance documents, the most significant of which are set out below:

London Local Air Quality Management Technical Guidance (LLAQM.TG(19)) (Mayor of London, 2019)

3.30 This document was published for use by London local authorities in Review and Assessment work but includes a number of technical guidelines on carrying out modelling assessment and management of monitoring data which set out best practice and are therefore relevant to all air quality assessments.

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

3.31 This guidance includes a methodology for identifying the risk magnitude of potential dust sources associated with demolition, construction, earthworks and trackout. This is then used to identify the level of mitigation necessary in order for the impacts to be not significant.

A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites (IAQM, 2020)

3.32 The IAQM guidance on 'Assessment of Air Quality Impacts on Designated Nature Conservation Sites' sets out the appropriate approach for this element of assessment. Due to the complexity of ecological impacts, an Air Quality professional alone can only identify whether emissions are unlikely to have a significant impact when compared against the relevant screening criteria.

3.33 Where the relevant screening criteria are exceeded, the combined input of both an Air Quality professional and an ecologist is generally required; the former to identify any changes to concentrations of deposition and the latter to consider the overall effect taking into consideration the location and sensitivity.

Sustainable Design and Construction Supplementary Planning Guidance (SPG) (GLA, 2014)

3.34 The 'Sustainable Design and Construction' SPG (GLA, 2014) was developed as part of the Implementation Framework for the London Plan 2016 (Mayor of London, 2016). The SPG has recently been revoked, however, the current London Plan (Mayor of London, 2021) still includes the requirement that development proposal must be 'at least Air Quality Neutral' and no further guidance concerning the assessment of 'Air Quality neutrality' has since been published.

As such, the 'air quality neutral' assessment presented within this AQA is based on the information provided within the 'Sustainable Design and Construction' SPG and the Air Quality Neutral Planning Support Update: GLA 80371 (Air Quality Consultants, 2014).

3.35 Details of the 'air quality neutral' benchmarks are set out in the Air Quality Neutral Planning Support Update (GLA 80371). Where a development is not considered to be 'air quality neutral', it is recommended that on-Site mitigation measures — such as green infrastructure, modifications to combustion plant specification, abatement

technology, or exposure reduction — are considered in preference to off-Site mitigation.

4 Baseline Conditions

4.1 Existing Air Quality conditions in the vicinity of the Site, including identification of relevant sensitive receptors, have been reviewed to provide a baseline for the assessment, as shown below.

Sensitive Receptors

Construction Phase

4.2 The approximate number of receptors sensitive to potential dust impacts during demolition, earthworks and construction has been estimated from a desk top study of the area up to 250m from Site. This is summarised in Table 4-1.

Table 4-1: Demolition, Earthworks and Construction - Dust Sensitive Receptors

Distance from Site Boundary (m)	Approximate No. of Human Receptors	Approximate No. of Ecological Receptors
<20	10-100 (high sensitivity)	0
<50	10 – 100 (high sensitivity)	0
<100	>100 (high sensitivity)	0
<250	>100 (high sensitivity)	0

4.3 The approximate number of receptors sensitive to potential dust impacts from trackout were identified from a desk top study of the area up to 50m from the road network within 500m of the Site access. These are summarised in Table 4-2.

Table 4-2: Trackout - Dust Sensitive Receptors

Distance from Road up to 500m from the Site Boundary Entrance (m)	Approximate No. of Human Receptors	Approximate No. of Ecological Receptors
<20	10-100 (high sensitivity)	0
<50	10 – 100 (high sensitivity)	0

Operation Phase

Human Health

4.4 Relevant sensitive locations are those where members of the public will be regularly present over the averaging period of the relevant AQALs. Sensitive locations considered include existing residential properties and educational facilities. The following sensitive receptors were identified for inclusion within the operation phase assessment.

Table 4-3: Operation Phase Existing Receptors (Human)

Receptor ID	Description	Coordinates		Height (m)
		X	Y	
R07	Residential property facing the junction between Coldharbour Lane and Avondale Drive	510289	180433	1.50
R06	Residential property adjacent to Avondale Drive	510314	180444	1.50
R05	Triscott House Nursing home property adjacent to Avondale Drive	510349	180386	1.50
R04	Business operations location property adjacent to Avondale Drive	510465	180338	1.50
R03	Minet Infant School adjacent to Avondale Drive	510552	180325	0.50
R02	Residential property facing project Site and adjacent to Avondale Drive	510657	180260	1.50
R01	Residential property adjacent to Avondale drive and opposite The Parkway A312	510780	180208	1.50

Figure 4-1: Operation Phase Existing Receptors

Table 4-4: Operation Phase Proposed Receptors (Human)

Receptor	Description	Coordinates		Height (m)
		X	Y	
P07	Northwestern corner of Site Boundary	510616	180330	1.50
P06	Northern boundary, central section	510680	180308	1.50
P05	Northeastern corner of Site Boundary	510753	180302	1.50
P04	Southwestern corner of Site Boundary	510604	180302	1.50
P03	Southern boundary, central section	510669	180279	1.50
P02	Eastern boundary near Avondale Children's Playground	510735	180255	1.50

Receptor	Description	Coordinates		Height (m)
		X	Y	
P01	Southeastern corner of Site Boundary	510790	180236	1.50

Figure 4-2: Operation Phase Proposed Receptors

Air Quality Management Areas

4.5 In 2003, Hillingdon Borough Council declared an AQMA in Hillingdon due to exceedances of the annual mean AQAL for NO2. The AQMA covers the area stretching from the southern boundary up to the northern border, following the A40 corridor from the western edge of the Borough eastwards to its junction with the Yeading Brook, and continuing north to meet the Chiltern–Marylebone railway line.

Local Emission Sources

4.6 The primary source of air pollution in proximity to the Site is emissions from road traffic using the local road network, namely Avondale drive.

4.7 A desk-based review of data from the National Atmospheric Emissions Inventory (NAEI) has been undertaken to identify large point sources and combustion plant releases associated with industrial installations in the vicinity of the Site. No such pollution sources have been identified in the Site locale, and they are therefore not considered further.

UK-AIR Modelled Background Concentrations

4.8 Predictions of background pollutant concentrations on a 1km-by-1km grid basis have been produced by Defra for the entire of the UK to assist local authorities in their Review and Assessment of Air Quality.

4.9 The Site is in grid square NGR: 510766, 180249 Annual mean background data for this location was obtained from the Defra website for 2022 (the verification year), 2024 (opening year baseline), and 2030 (completion year baseline) and is summarised below in Table 4-5.

Table 4-5: Background Pollution Concentrations

Pollutant	Predicted Background Concentration (µg/m³)		
	2022	2024	2030
NO_2	18.3	16.6	13.9
PM_{10}	14.4	14.2	13.8
$PM_{2.5}$	8.51	8.35	7.92

4.10 As shown in Table 4-5, predicted background concentrations are below the relevant AQALs at the Site.

4.11 Concentrations of most pollutants are predicted to decline incrementally each year. These reductions are principally due to the forecast effect of the roll out of cleaner vehicles and strategies to reduce emissions across all sectors.

Local Air Quality Monitoring

Automatic (Continuous) Monitoring

4.12 Hillingdon Borough Council do undertake automatic continuous monitoring. All data are taken from the latest available Annual Status Reports (ASR) are shown in Table 4-7, with exceedances shown in bold.

Table 4-7: Local Automatic Monitoring – NO_2

Site ID	Distance to Site (Km)	Monitor Type	Monitored NO_2 Concentration (µg/m³)				
			2019	2020	2021	2022	2023
HIL5	~1.4	Roadside	**41**	31	34	34	34

Non-Automatic (Diffusion tube) Monitoring

4.13 Annual mean NO_2 concentrations from the closest Hillingdon Borough Council monitoring locations to the Site are reported below. All data are taken from the latest available ASR are shown in Table 4-6, with exceedances shown in bold.

Table 4-6: Local Non-Automatic Monitoring – NO_2

Site ID	Distance to Site (Km)	Monitor Type	Monitored NO_2 Concentration (µg/m³)				
			2019	2020	2021	2022	2023
HILL07	~1.4	Roadside	36.9	28.1	28.8	30.5	28.8
HILL08	~1.8	Roadside	33.9	24.1	25.3	26.7	25.9
HILL17	~0.4	Background	31.6	24.7	24.2	24.1	22.6
HILL18	~1.2	Roadside	37.4	29.9	27.6	28.3	25.7
HILL26	~2.2	Roadside	40.0	28.2	26.8	29.2	27.7
HILL27	~0.9	Roadside	33.2	24.5	25.3	26.8	26.9
HILL28	~1.4	Roadside	31.7	23.0	23.5	27.1	21.4

Site ID	Distance to Site (Km)	Monitor Type	Monitored NO_2 Concentration (µg/m^3)				
			2019	2020	2021	2022	2023
HILL31	~0.8	Background	32.5	24.3	23.2	25.3	22.0

4.14 The data above show that monitored NO_2 concentrations have not exceeded the annual mean Air Quality objective of 40 µg/m^3 in recent years in the Site locale.

4.15 Furthermore, concentrations at all monitoring sites shown have not exceeded 60 µg/m^3, suggesting that exceedances of the 1-hour mean NO_2 objective were unlikely during this period at any monitoring Site.

5 Predicted Impacts

Construction Phase

5.1 The following sections present the construction phase assessment. Reference should be made to Appendix A for full details of the methodology followed to undertake the assessment.

Potential Dust Emission Magnitude

5.2 Table 5-1 presents a summary of the potential dust emission magnitude for each stage of construction:

Table 5-1: Potential Dust Emission Magnitude

Workstage	Description of Works	Potential Dust Emission Magnitude
Demolition	Materials to be demolished will include brick and concrete which have a high to moderate potential for dust release. Demolition activities are anticipated to occur more than 20 m from the ground.	Large
Earthworks	The soil composition across the Site is deep, with a silt to silty loam texture, and a residual clay and loamy loess subsoil, with grains argillaceous in size. As such, this soil composition is considered to have the potential to be moderately dusty.	Large
Construction	The development will involve the construction of four new residential blocks of between five and 10 storeys, with a total estimated total building volume of over 100,000 m^3.	Large
Trackout	The number of vehicles exiting the Site which may track material onto roads is unknown but, given the size and nature of the Site, this is expected to be more than 50 HDVs a day.	Large

Sensitivity of the Area

Dust Deposition

5.3 Residential properties and schools are considered to be of 'high' sensitivity to dust soiling, whilst commercial properties are considered to be 'medium' sensitivity receptors.

5.4 There are between 10 and 100 residential dwellings and two schools (as part of the same Minet Infant and Junior School) located within 20 m of the Site boundary. The sensitivity of the area surrounding the Site to dust soiling is considered to be 'high.'

Human Health

5.5 Residential properties and schools are considered to be of 'high' sensitivity in terms of human health effects. Annual mean concentrations of PM_{10} at locations that may be affected by construction dust and trackout will be <24 µg/m^3. Taking into account the assumed baseline PM_{10} concentrations and the number of sensitive properties in close proximity to of the Site boundary and roads where trackout may occur, the sensitivity of the surrounding area to human health effects is considered to be 'low' for on-Site activities and 'medium' for trackout activities.

Additional Factors

5.6 Several additional factors have been considered when determining the sensitivity of the surrounding area. These are summarised in Table 5-2.

Table 5-2: Additional Area Sensitivity Factors to Potential Dust Impacts

Factor	Comment
Whether there is any history of dust generating activities in the area.	The desk top study did not indicate any dust generating activities in the local area.
The likelihood of concurrent dust generating activity on nearby sites.	A review of the Hillingdon Borough Council planning portal did not indicate any additional development proposals likely to result in concurrent dust generation in the vicinity of the Site.
Pre-existing screening between the source and the receptors.	There is no pre-existing screening between the Site and surrounding receptors.
Conclusions drawn from analysing local meteorological data which accurately represent the area: and if relevant the season during which works will take place.	The closest regionally representative meteorological measurement station to the Site is Heathrow Airport. A desk top review of data from this meteorological station shows that the prevailing winds at are from the south-west. As such, receptors downwind (i.e., east, north-east) of the Site are more at risk of frequent exposure to adverse dust impacts than those located upwind.

Factor	Comment
Conclusions drawn from local topography.	There are no significant topographical constraints to dust dispersion.
Duration of the potential impact, as a receptor may become more sensitive over time.	The duration of the construction phase is assumed to be c. 1-5 years.
Any known specific receptor sensitivities which go beyond the classifications given in the document.	No specific receptor sensitivities identified during the baseline assessment.

Summary of Area Sensitivity

5.7 The sensitivity of the receiving environment to specific potential dust impacts is shown in Table 5-3.

Table 5-3: Sensitivity of the Surrounding Area to Potential Dust Impacts

Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High	High	High	High
Human Health	Low	Low	Low	Medium

Summary of Potential Unmitigated Dust Risks

5.8 A summary of the risk from each dust generating activity is provided in Table 5-4:

Table 5-4: Summary of Potential Unmitigated Dust Risks

Potential Impact		Risk				
		Demolition	Earthworks	Construction	Trackout	Overall
Magnitude / Sensitivity		**Large**	**Large**	**Large**	**Large**	**Large**
Dust Soiling	High	High	High	High	High	High
Human Health	Low / Medium	Medium	Low	Low	Medium	Medium
Overall						**High**

5.9 Overall, the Proposed Development is High Risk for potential nuisance dust soiling effects and Medium Risk for PM_{10} health effects, in the absence of mitigation.

Operation Phase

5.10 The following sections present the operation phase assessment. The assessment takes into account the increase of 56 residential units and additional podium parking provision proposed under the Section 73 application, in addition to the extant consent. These changes have the potential to influence trip generation and associated emissions and are reflected in the operational impact assessment. Reference should be made to Appendix B for full details of the methodology followed to undertake the assessment.

Road Traffic Emissions: Impact (Human Health)

5.11 Annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations modelled at existing receptor locations (as set out in Table 4-3) in the 2030 Do Minimum and 2030 Do Something scenarios (as set out in Appendix B) are set out below.

Nitrogen Dioxide (NO_2)

5.12 The data in Table 5-5 shows that modelled annual mean NO_2 concentrations are below the AQAL at all existing receptor locations:

Table 5-5: Predicted Change in Annual Mean NO_2 Due to Development

Receptor	DM ($\mu g/m^3$)	DS ($\mu g/m^3$)	Change ($\mu g/m^3$)	% Change of AQAL	Impact
R01	20	20	0	0%	Negligible
R02	19	19	0	0%	Negligible
R03	19	19	0	0%	Negligible
R04	19	19	0	0%	Negligible
R05	19	19	0	0%	Negligible
R06	19	19	0	0%	Negligible

Receptor	DM (µg/m³)	DS (µg/m³)	Change (µg/m³)	% Change of AQAL	Impact
R07	21	21	0	0%	Negligible
P01 AD	20	20	0	0%	Negligible
P01 AD	19	19	0	0%	Negligible
P02 AD	19	19	0	0%	Negligible
P02 AD	19	19	0	0%	Negligible
P03 AD	19	19	0	0%	Negligible
P03 AD	19	19	0	0%	Negligible
P04 AD	19	19	0	0%	Negligible
P04 AD	19	19	0	0%	Negligible
P05 AD	19	19	0	0%	Negligible
P05 AD	19	19	0	0%	Negligible
P06 AD	19	19	0	0%	Negligible
P06 AD	19	19	0	0%	Negligible
P07 AD	19	19	0	0%	Negligible
P07 AD	19	19	0	0%	Negligible

5.13 Traffic generated by the Proposed Development is not predicted to increase annual mean NO_2 concentrations due to a 0 µg/m³ change, and is classed as a Negligible impact based on the EPUK & IAQM criteria set out in Table 2-2.

5.14 Based on the predicted annual mean NO_2 concentrations, the 1-hour objective is also not likely to be exceeded at all the selected receptors and impacts on short term NO_2 will also be Negligible.

Particulate Matter (PM_{10})

5.15 The data in Table 5-6 shows that modelled annual mean PM_{10} concentrations are below the AQAL at all the selected receptor locations:

Table 5-6: Predicted Change in Annual Mean PM_{10} Due to Development

Receptor	DM (µg/m³)	DS (µg/m³)	Change (µg/m³)	% Change of AQAL	Impact
R01	20	20	0	0	Negligible
R02	19	19	0	0	Negligible
R03	19	19	0	0	Negligible
R04	19	19	0	0	Negligible
R05	19	19	0	0	Negligible
R06	19	19	0	0	Negligible
R07	21	21	0	0	Negligible
P01 AD	20	20	0	0	Negligible
P01 AD	20	20	0	0	Negligible
P02 AD	19	19	0	0	Negligible
P02 AD	19	19	0	0	Negligible
P03 AD	19	19	0	0	Negligible
P03 AD	19	19	0	0	Negligible
P04 AD	19	19	0	0	Negligible
P04 AD	18	18	0	0	Negligible
P05 AD	19	19	0	0	Negligible
P05 AD	19	19	0	0	Negligible

Receptor	DM (µg/m³)	DS (µg/m³)	Change (µg/m³)	% Change of AQAL	Impact
P06 AD	18	18	0	0	Negligible
P06 AD	18	18	0	0	Negligible
P07 AD	18	18	0	0	Negligible
P07 AD	18	18	0	0	Negligible

5.16 Traffic generated by the Proposed Development is not predicted to increase annual mean PM_{10} concentrations due to a 0 µg/m³ change, and is classed as a Negligible impact based on the EPUK & IAQM criteria set out in Table 2-2.

5.17 With a similar approach to NO_2, the LAQM.TG (22) recommends that where annual mean PM_{10} concentrations fall below 32 µg/m³ the 24-hour AQAL is unlikely to be exceeded. Based on predicted annual mean PM_{10} concentrations the 24-hour AQAL is not to be exceeded at any of the receptor locations and impacts on short term PM_{10} will be Negligible.

6 Mitigation

Construction

6.1 The qualitative construction dust risk assessment shows that the works would be up to High Risk for adverse impacts during construction, in the absence of mitigation. To effectively reduce the risk of impacts to Negligible, appropriate mitigation measures would be adopted.

6.2 The IAQM's highly recommended mitigation measures for High Risk sites are provided at Appendix C of this report. Implementing these measures, such as Dust Management Plan (DMP) through appropriate planning conditions, should effectively reduce the risk of impacts to Negligible during the construction phase.

Operation

6.3 2030 $PM_{2.5}$ concentrations at the Site are below the 2028 Annual Mean Interim Target of 12 µg/m but are above the 2040 Annual Mean Concentration Target. The exceedance of the Annual Mean Concentration Target is primarily associated with uncertainty in the 2030 background predictions, which are independent of this site-specific assessment, however this would revert to be below the Annual Mean Concentration target by 2040.

7 Discussion and Conclusions

Construction Phase

7.1 A qualitative construction dust risk assessment has been carried out in accordance with IAQM guidance. The qualitative construction dust risk assessment shows that the works would be Medium Risk for adverse impacts during construction, in the absence of mitigation. By following the mitigation measures outlined in this report, the risk of construction phase impacts would reasonably be reduced to Negligible.

Operation Phase

7.2 Impacts from operation phase road traffic emissions are considered not significant, and future residents at the Site are considered unlikely to be exposed to pollution concentrations above AQALs.

Overall

7.3 From the evidence presented, and by following the guidance provided in this report, the Section 73 application would be expected to comply with all relevant Air Quality policy. As such, Air Quality should not pose any significant obstacles to the planning process.

7.4 The conclusion that operational phase impacts will remain Negligible is contingent on implementation of the assumed traffic forecasts and fleet improvements, and the absence of materially adverse future policy or economic conditions.

8 Appendices

Appendix A: Construction Phase Methodology

Step 1

8.1 Step 1 is a basic screening stage, to determine whether the more detailed assessment provided in Step 2 is required. Should human receptors be identified within 250m of the boundary or 50m from the construction vehicle route up to 500m from the Site entrance, then the assessment proceeds to Step 2. Additionally, should ecological receptors be identified within 50m of the Site or the construction vehicle route, then the assessment also proceeds to Step 2.

Step 2a - Potential Dust Emission Magnitude

8.2 Step 2a determines the potential for dust to arise during the construction phase. Activities on construction sites with the potential to generate dust can be categorised into four types of activities:

- Demolition – any activities associated with the removal of existing structures on the Site;
- Earthworks – includes the processes of soil-stripping, ground-levelling, excavation and landscaping;
- Construction – any activities relating to the provision of new structures on the Site; and
- Trackout – the transport of dust and dirt from the Site onto the public road network where it may be deposited and re-suspended by vehicle traffic.

8.3 The potential dust emission magnitude for each of the activities is determined by the scale and magnitude of the works, and are classified as small, medium or large depending on the criteria outlined below in Table 8-1.

Table 8-1: Construction Dust - Magnitude of Emission

Activity	Potential Dust Emission Magnitude		
	Small	Medium	Large
Demolition	Total building volume <12,000m^3, construction material with low potential for dust release (e.g., metal cladding or timber), demolition activities <6m above ground, demolition during wetter months	Total building volume 12,000 m^3 – 75,000m^3, potentially dusty construction material, demolition activities 6-12m above ground level	Total building volume >75,000m^3, potentially dusty construction material (e.g., concrete), on-Site crushing and screening, demolition activities >12m above ground level
Earthworks	Total Site area <18,000m^2, soil type with large grain size, <5 heavy earth moving vehicles active at any one time, formation of bunds <3m in height	Total Site area 18,000m^2 – 110,000m^2, moderately dusty soil type, 5-10 heavy earth moving vehicles, formation of bunds 3m - 6m in height	Total Site area >110,000m^2, potentially dusty soil type (such as clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles, formation of bunds >6m
Construction	Total building volume <12,000m^3, construction material with low potential for dust release (such as metal cladding or timber)	Total building volume 12,000m^3 – 75,000m^3, potentially dusty construction material (such as concrete), on-Site concrete batching	Total building volume >75,000m^3, on-Site concrete batching, sandblasting
Trackout	<20 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved roads <50m	20-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (such as high clay content), unpaved road length 50m – 100m	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (such as high clay content), unpaved road length >100m

Step 2b - Sensitivity of the Area to Construction Dust

8.4 Step 2B defines the sensitivity of the area around the development to potential dust impacts. The influencing factors to determine individual receptor sensitivities are shown in Table 8-2.

Table 8-2: Examples of Factors Defining Sensitivity of an Area

Receptor Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	Users expect of high levels of amenity. High aesthetic or value property. People expected to be present continuously for extended periods of time. Locations where members of the public are exposed over a time period relevant to the AQAL for PM_{10}. e.g., residential properties, hospitals, schools, and residential care homes.	Internationally or nationally designated Site e.g., Special Area of Conservation.
Medium	Users would expect to enjoy a reasonable level of amenity. Aesthetics or value of their property could be diminished by soiling. People or property would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land e.g., parks and places of work.	Nationally designated Site e.g., Sites of Special Scientific Interest.
Low	Enjoyment of amenity would not reasonably be expected. Property would not be expected to be diminished in appearance. Transient exposure, where people would only be expected to be present for limited periods. e.g., public footpaths, playing fields, shopping streets, farmland, short term car parks and roads.	Locally designated Site e.g., Local Nature Reserve.

8.5 The sensitivity of the area is defined separately for dust soiling impacts, human health impacts and ecological impacts according to the criteria shown in the following tables, derived from IAQM guidance.

Table 8-3: Sensitivity of the Area to Dust Soiling

Receptor Sensitivity	No. 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 8-4: Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM_{10} Concentration	No. of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	>32 µg/m^3	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	28-32 µg/m^3	>100	High	High	Medium	Medium
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	24-28 µg/m^3	>100	High	Medium	Low	Low

Receptor Sensitivity	Annual Mean PM_{10} Concentration	No. of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	<24 µg/m^3	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	>32 µg/m^3	>10	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	28-32 µg/m^3	>10	Medium	Low	Low	Low
		1-10	Low	Low	Low	Low
	24-28 µg/m^3	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	<24 µg/m^3	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	<1	Low	Low	Low	Low

Table 8-5: Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
Medium	Medium	Low
Low	Low	Low

Step 2c - Risk of Impacts

8.6 Step 2c combines the information from Steps 2a and 2b to determine the risk of dust impacts without mitigation (i.e., excluding embedded mitigation), according to the matrices below.

8.7 The risk of impacts is determined for each of the four activities using the matrices prescribed in the IAQM guidance, as reproduced below:

Table 8-6: Dust Risk Category from Demolition Activities

Receptor Sensitivity	Potential Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Medium
Medium	High	Medium	Low
Low	Low	Low	Negligible

Table 8-7: Dust Risk Category from Earthworks and Construction Activities

Receptor Sensitivity	Potential Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low

Receptor Sensitivity	Potential Dust Emission Magnitude		
	Large	Medium	Small
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

Table 8-8: Dust Risk Category from Trackout Activities

Receptor Sensitivity	Potential Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Low	Negligible
Low	Low	Low	Negligible

Step 3

8.8 Step 3 requires the identification of site-specific mitigation measures within the IAQM guidance to reduce potential dust impacts based upon the relevant risk categories identified in Step 2. For sites with Negligible risk, mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

Step 4

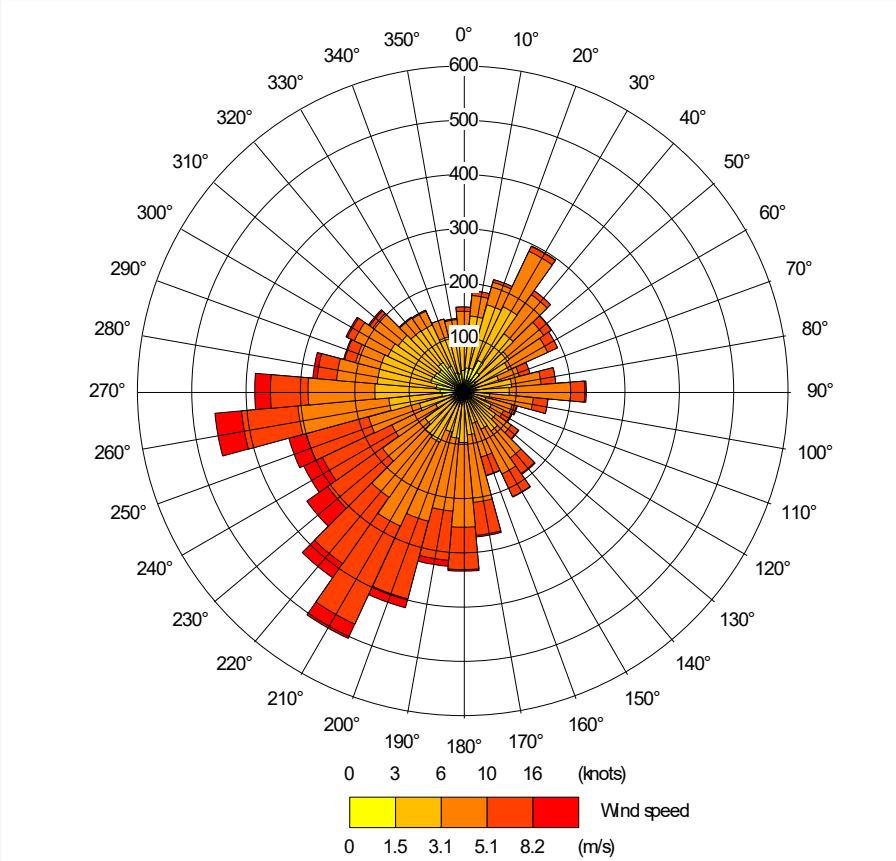
8.9 Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final Step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects using effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be not significant.

Appendix B: Operation Phase Methodology

Overview

Table 8-9: ADMS-Roads Model Inputs Processing Tools

Model Input Parameter	Details
Model Version	A detailed AQA has been undertaken using the air dispersion model ADMS-Roads. The software is commercially available, has been accepted for this type of assessment by Defra and is used extensively for AQA's. ADMS-Roads is able to provide an estimate of ambient pollution concentrations, considering important input data such as background pollutant concentrations, variable emissions, meteorological data, and traffic flows.
Assessment Scenarios	The following scenarios have been assessed: • 2022 Baseline scenario (for the purposes of model verification); • 2030 Do Minimum scenario (inclusive of committed developments), without the Proposed Development; • 2030 Do Something scenario (Do Minimum plus the Proposed Development).
Emission Factor Toolkit (EFT)	Emission rates for NO_x, PM_{10} and $PM_{2.5}$ used in the dispersion modelling assessment were calculated from the latest EFT (v.13.1) which was released in March 2025 Most modern vehicles on the road in the UK meet a particular Euro emissions standard from 1 – 6, with 6 being the newest. Different parts of the country have newer or older vehicles than others. This is defined as the "fleet". The EFT estimates this primarily based on whether the location is within or outside London or in England, Wales or Scotland. In the case of this model the vehicle fleet used was defined as "London (urban)"
Surface Roughness	The following surface roughness parameters have been applied in the model: • Dispersion Site surface roughness = 1.5m (ADMS pre-set for 'Large Urban Areas'); • Met Site surface roughness = 0.005m (ADMS pre-set for 'Short Grass', to reflect its more open location).
Meteorological Data	To calculate pollutant concentrations, ADMS-Roads requires hourly sequential meteorological data, including wind direction, wind speed, temperature, cloud cover and stability, which exert significant influence over atmospheric dispersion. The assessment has been undertaken using 2022 meteorological data from Heathrow Airport Meteorological Station, which is the closest and most representative meteorological station which records all of the parameters necessary for dispersion modelling.

Model Input Parameter	Details
	The wind rose is provided below: 
Minimum Monin-Obukhov Length	The following Minimum Monin-Obukhov (MO) lengths were applied: • Dispersion Site = 100m (ADMS pre-set for 'Large conurbations >1 million'). • Met Site = 100m (ADMS pre-set for 'Large conurbations >1 million').
Surface Albedo	• 0.23 (model default)
NO_x To NO_2 Conversion	Ambient NO_x concentrations have been predicted through dispersion modelling. Annual NO_x concentrations have been converted using Defra's NO_x to NO_2 conversion tool version 9.1. Total NO_2 was determined by adding the calculated background NO_2 concentration to the modelled road contribution NO_x.

Model Input Parameter	Details
Background Concentrations	2021 based Defra UK-AIR modelled background concentrations for the relevant grid square and assessment years were considered to be the appropriate source of background concentrations in the dispersion modelling assessment. Annual mean background NO_2, PM_{10} and $PM_{2.5}$ concentrations were therefore derived from this dataset.

Modelled Roads and Traffic Profile

8.10 Traffic data used in the ADMS modelling assessment is set out in Table 8-10.

Table 8-10: Traffic Data used in ADMS Model

Road Link	2030 Do Minimum (including committed development)		2030 Do Something (including committed development)	
	AADT	HDV %	AADT	HDV %
AD 01	2418	1.99	2707	1.77
AD 02	2418	1.99	2707	1.77
AD 03	2418	1.99	2707	1.77
AD 04	2418	1.99	2707	1.77
AD 05	2418	1.99	2707	1.77
AD 06	2418	1.99	2707	1.77
CL 01	14032	6.18	14155	6.13
CL 02	14032	6.18	14155	6.13
CL 03	14032	6.18	14199	6.11
CL 04	14032	6.18	14199	6.11
A312	64458	4.66	64458	4.66

Table 8-11: Baseline Traffic Data used in ADMS Model

Road Link	2030 Baseline	
	AADT	HDV %
osgb4000000030211541	30463	4.7
osgb4000000030081727	20827	3.9
osgb4000000030081726	20827	3.9
osgb4000000030211543	8478	3.4
osgb4000000030211542	18305	4.8
osgb4000000030319239	7850	5.9
osgb4000000030132681	15632	5.3
osgb4000000030319240	18371	6
osgb4000000030404939	18362	6
osgb4000000030404938	23576	5.9
osgb4000000030452236	30727	5.6
osgb4000000030452237	23477	6.2
osgb4000000030095754	5123	6.9
osgb4000000030095755	18305	4.8
osgb4000000030095756	5213	5.3
osgb4000000030095757	20827	3.9
osgb4000000030095758	15078	8.3
osgb4000000030132381	13966	19.2

Road Link	2030 Baseline	
	AADT	HDV %
osgb4000000030132387	11529	2.4
osgb4000000030132371	2036	5.8
osgb4000000030803736	2036	5.8
osgb4000000031203943	8879	4
osgb4000000030404653	1930	0.6
osgb4000000030210996	4467	3.8
osgb4000000030211023	2125	9.7
osgb4000000030452091	8149	17.1
osgb4000000030318884	8023	6.4
osgb4000000031048547	12106	1.7
osgb4000000031244257	8149	17.1
osgb4000000031244259	6004	24.6
osgb4000000030211004	13953	19.1
osgb4000000030473230	13966	19.2
osgb4000000030211030	12199	2.3
osgb4000000031147975	4367	1.6
osgb4000000030479027	8879	4
osgb4000000030473229	13966	19.2

8.11 The roads modelled in the ADMS-Roads dispersion model are shown below in Figure 8-1:

Figure 8-1: Location of Road Links used in ADMS Modelling

Background Map Verification

8.12 An important stage in the modelling process is background verification, which involves comparing the Defra background maps with measured concentrations to increase confidence in background inputs to the modelling process. Background verification was undertaken using 2022 diffusion tube data from Hillingdon Borough Council monitoring locations.

8.13 The following Air Quality monitoring locations were selected for background verification, which were considered to be the most representative of the study area with suitable traffic data availability.

- HILL18
- HILL28

8.14 The pre-adjusted background and monitored verification results are shown in Table 8-12:

Table 8-12: Background Concentrations

Monitoring ID	Mapped NO_2 (µg/m³)	Monitored NO_2 (µg/m³)	Difference (%)
HILL17	20.1	24.1	-20
HILL31	17.7	25.3	-43

8.15 As shown, Defra Mapped concentrations underpredicted local monitored background concentrations. Consequently, an adjustment factor of 1.31 was applied.

8.16 Table 8-13 shows total monitored versus mapped NO_2 following adjustment by this factor.

Table 8-13: Post-adjusted Background and Monitored Results

Monitoring ID	Post-adjusted Mapped NO_2 (µg/m³)	Monitored NO_2 (µg/m³)	Difference (%)
HILL17	26.4	24.1	10
HILL31	23.2	25.3	-8

8.17 Following adjustment of Defra background mapped concentration the values more closely agree with the measurements.

8.18 As there is insufficient PM_{10} or $PM_{2.5}$ monitoring data, it was not possible to perform model verification for these pollutants. As such, the background NO_2 adjustment factor was applied to PM_{10} and $PM_{2.5}$ model results as a worse case.

Model Verification

8.19 An important stage in the modelling process is model verification, which involves comparing the model output with measured concentrations to increase confidence in modelled predictions. Model verification was undertaken using 2022 diffusion tube data from Hillingdon Borough Council monitoring locations.

8.20 According to LAQM.TG (22), the difference between modelled results and monitored concentrations is acceptable where it is within 25% (10% is preferable), as measured using the metric Root Mean Square Error (RMSE).

8.21 It is most appropriate to verify the model in terms of primary pollutant emissions of nitrogen oxides (NO_x = NO + NO_2). The model output of road-NO_x (i.e., the component of total NO_x coming from road traffic) has been compared with the 'measured' road-NO_x.

8.22 The following Air Quality monitoring locations were selected for model verification, which were considered to be the most representative of the study area with suitable traffic data availability.

- HILL18
- HILL28

8.23 The pre-adjusted modelled and monitored verification results are shown in Table 8- 8-14:

Table 8-14: Modelled and Monitored Concentrations

Monitoring ID	Modelled Total NO_2 (µg/m³)	Monitored Total NO_2 (µg/m³)	Difference (%)
HILL18	26.9	28.3	-5
HILL28	26.1	27.1	-4

8.24 As shown, modelled concentrations of NO_x and NO_2 were both underpredicted by the model. The RMSE is calculated to be 1.19 (2.98%). According to LAQM.TG (22) this is preferable.

8.25 However, as model underpredictions are present in the study area, a Nox Roads adjustment factor of **1.94** has been determined as the average adjustment factor for each verification point between the 'measured' road contribution and the model derived road contribution of NO_x.

8.26 Table 8-14 shows total monitored versus modelled NO_2 following the adjustment of the road contribution of NO_x by this factor:

Table 8-15: Post-adjusted Modelled and Monitored Results

Monitoring ID	Post-adjusted Modelled Total NO_2 ($\mu g/m^3$)	Monitored Total NO_2 ($\mu g/m^3$)	Difference (%)
HILL18	28.5	28.3	0.7
HILL28	27.0	27.1	-0.4

8.27 Following adjustment of NO_x, the updated RMSE is 0.15 (0.38%), resulting in a reduction in the model error (improvement in model prediction) of 1.04 $\mu g/m^3$.

8.28 As there is insufficient NH_3, PM_{10} or $PM_{2.5}$ monitoring data in the study area for roads with available traffic data, it was not possible to perform model verification for these pollutants. As such, the road-NO_x adjustment factor has also been applied to PM_{10} and $PM_{2.5}$ model results, in accordance with LAQM.TG (22).

Appendix C: Construction Dust Mitigation

8.29 IAQM guidance provides potential mitigation measures to reduce impacts because of fugitive dust emissions during the construction phase. These have been adapted for the Site as summarised in Table 8-16.

Table 0-16: Fugitive Dust Emission Mitigation Measures

Mitigation Measure	Low Risk	Medium Risk	High Risk
Site Management			
Develop and implement a stakeholder communications plan that includes community engagement before work commences on-Site.	N	H	H
Develop and implement a Dust Management Plan (DMP).	D	H	H
Display the name and contact details of person(s) accountable for Air Quality and dust issues on the Site boundary. This may be the environment manager/engineer or the Site manager.	H	H	H
Display the head or regional office contact information.	H	H	H
Record and respond to all dust and Air Quality pollutant emission complaints.	H	H	H
Make the complaints log available to the Local Authority when asked.	H	H	H
Carry out regular Site inspections to monitor compliance with Air Quality and dust control procedures, record inspection results, and make an inspection log available to the Local Authority when asked.	H	H	H
Increase the frequency of Site inspections by those 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.	H	H	H
Record any exceptional incidents that cause dust and Air Quality pollutant emissions, either on- or off- Site, and the action taken to resolve the situation in the logbook.	H	H	H
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.	N	N	H
Monitoring			
Undertake daily on-Site and offsite inspection, 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.	D	D	H
Agree dust deposition, dust flux, or real-time PM_{10} 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	N	H	H

commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.			
Preparing And Maintaining The Site			
Plan Site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	H	H	H
Erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on-Site.	H	H	H
Fully enclose Site or specific operations where there is a high potential for dust production and the Site is actives for an extensive period.	D	H	H
Install green walls, screens or other green infrastructure to minimise the impact of dust and pollution.	N	D	D
Avoid Site runoff of water or mud.	H	H	H
Keep Site fencing, barriers and scaffolding clean using wet methods.	D	H	H
Remove materials from Site as soon as possible.	D	H	H
Cover, seed or fence stockpiles to prevent wind whipping.	N	H	H
Carry out regular dust soiling checks of buildings within 100 m of Site boundary and cleaning to be provided if necessary.	N	D	D
Provide showers and ensure a change of shoes and clothes are required before going offsite to reduce transport of dust.	N	N	D
Agree monitoring locations with the Local Authority.	N	H	H
Where possible, commence baseline monitoring at least three months before phase begins.	N	H	H
Put in place real-time dust and Air Quality pollutant monitors across the Site and ensure they are checked regularly.	N	H	H
Operating Vehicle/Machinery And Sustainable Travel			
Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London non-road mobile machinery (NRMM) standards, where applicable	H	H	H
Ensure all NRMM comply with the standards set out within the SPG	H	H	H
Ensure all vehicles switch off engines when stationary - no idling vehicles.	H	H	H
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	H	H	H
Impose and signpost a maximum-speed-limit of 15 mph on surfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where appropriate)	D	D	H
Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.	N	H	H
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)	H	H	H
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.	H	H	H
Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	H	H	H
Use enclosed chutes and conveyors and covered skips.	H	H	H
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	H	H	H
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.	D	H	H
Waste Management			
Avoid bonfires and burning of waste materials.	H	H	H
Reuse and recycle waste to reduce dust from waste materials.	H	H	H
Demolition			
Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).	D	D	H
Ensure water suppression is used during demolition operations.	H	H	H
Avoid explosive blasting, using appropriate manual or mechanical alternatives.	H	H	H
Bag and remove any biological debris or damp down such material before demolition.	H	H	H
Earthworks			
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.	N	D	H
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil.	N	D	H
Only remove the cover in small areas during work and not all at once.	N	D	H
Construction			
Avoid scabbling (roughening of concrete surfaces) if possible	D	D	H
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.	D	H	H
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.	N	D	H
For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.	N	D	D
Trackout			
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Site.	D	H	H

Avoid dry sweeping of large areas.	D	H	H
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	D	H	H
Inspect on-Site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	N	H	H
Record all inspections of haul routes and any subsequent action in a Site logbook.	D	H	H
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	N	H	H
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site where reasonably practicable).	D	H	H
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the Site exit, wherever Site size and layout permit.	N	H	H
Access gates to be located at least 10 m from receptors where possible.	N	H	H
Apply dust suppressants to locations where a large volume of vehicles enters and exit the construction Site.	N	D	H

(H = Highly Recommended, D = Desirable and N = Not Recommended).