

AIR QUALITY NOTE

Job Name: Rainbow Industrial Estate

Job No: 332410017

Note No: 1

Date: 10.01.22

Prepared By: JM

- 1.1.1 Stantec UK Limited are instructed by Troutbourne LLP ('The Applicant') to submit a planning application for revised proposals for development on land at the former Rainbow Industrial Estate, Trout Road, Yiewsley ('The Site').
 - 1.1.2 The application is made for '*Retention of entrance gates and change of use for Use Class Sui Generis including container and skip storage; open and closed storage of building, scaffolding and lighting materials; storage of aggregate materials; vehicle storage and sales; and associated installation of portacabins, container stores, transportable silos and other structures for a period of 12 months (retrospective application).*'
 - 1.1.3 The proposed use is sought for a temporary period of 12 months as a meanwhile use of the site whilst a mixed use, residential-led scheme for the Rainbow and Kirby Industrial sites is discussed with LBH during pre-application discussions and a formal planning application is submitted and determined.
 - 1.1.4 The proposals follow the refusal of planning permission by LB Hillingdon (LBH) for a similar temporary use proposal on 19th August 2021 for '*Installation of two portacabins and retention of entrance gates and proposed change of use for Use Class Sui Generis including container storage; open and closed storage of building and scaffolding materials; storage of aggregate materials; vehicle storage and sales for a period of 36 months (part retrospective application)*' (LPA Ref: 38058/APP/2021/1327) ('The 2021 Refusal Application') and a subsequent Enforcement Notice issued by LBH on 3rd September 2021 (Ref: HS/ENF/019144).
 - 1.1.5 An appeal against the Enforcement Notice (PINS Ref: APP/R5510/C/21/3284869) was submitted on 14th October and is pending determination.
 - 1.1.6 An Air Quality and Dust Risk Assessment (October 2021) prepared by Air Quality Assessments Ltd (shown at **Appendix A**) was submitted as the Enforcement Notice Appeal and it is considered that the key findings and recommendations are relevant to the current proposals as similar uses, operational hours and vehicle movements/ trip data are proposed.
 - 1.1.7 The Assessment outlines a dust management plan (DMP) and DMP Audit that could be undertaken as part of proposed operations.
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AIR QUALITY NOTE

APPENDIX A - AIR QUALITY AND DUST RISK ASSESSMENT (OTOBER 2021)



Air Quality & Dust Risk Assessment	
Land at Rainbow Industrial Estate, Trout Road, Hillingdon	
Job number:	J0577
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Contents

1	Introduction	1
2	Road Traffic Impacts Screening	3
2.1.	Method.....	3
2.2.	Screening Assessment.....	3
3	Legislation, Planning Policy and Guidance	5
3.1.	Legislation	5
3.2.	Planning Policy	6
3.3.	Guidance	11
4	Methodology	12
4.1.	Existing Conditions	12
4.2.	Operational Dust Impacts	12
5	Baseline Conditions	18
5.1.	LAQM Review and Assessment	18
5.2.	Local Air Quality Monitoring	18
5.3.	Background Concentrations.....	19
6	Operational Phase Impacts.....	20
6.1.	Screening.....	20
6.2.	Dust Generating Activities.....	20
6.3.	Residual Source Emissions	22
6.4.	Pathway Effectiveness.....	23
6.5.	Potential Dust Deposition Effects	24
6.6.	Health Effects	24
7	Dust Management Plan	29
7.1.	Mitigation	29
7.2.	Roles and Responsibilities	29
7.3.	Monitoring.....	29
7.4.	Trigger Levels and Corrective Action	30
7.5.	Record Keeping and Auditing.....	30
7.6.	Communications	30
7.7.	DMP Audit	31
8	Residual Impacts.....	32

9	Conclusions.....	33
10	References.....	34
11	Appendices	36

Tables

Table 1: Net Change in Traffic due to the Operation of the Proposed Development.....	4
Table 2: The Objectives for PM ₁₀	6
Table 3: Sensitivities of People to Dust Soiling	13
Table 4: Sensitivities of People to PM ₁₀	14
Table 5: Sensitivities of Receptors to Ecological Effects.....	14
Table 6: Estimation of Dust Impact Risk	15
Table 7: Descriptors for Magnitude of Dust Effects	15
Table 8: Examples of Residual Source Emissions Magnitude	16
Table 9: Categorisation of Frequency of Potentially Dusty Winds	17
Table 10: Categorisation of Receptor Distance from Source	17
Table 11: Pathway Effectiveness	17
Table 12: Summary of PM ₁₀ Monitoring Data ^a	18
Table 13: Estimated Annual Mean Background Concentrations in 2021 (µg/m ³)	19
Table 14: Summary of Residual Source Emissions for Each Phase	23
Table 15: Wind Frequency Category for Each Receptor Area during each Phase.....	26
Table 16: Pathway Effectiveness for Each Receptor Area	27
Table 17: Summary of Dust Deposition Effects	27
Table A1: Indicative Criteria for Requiring an Air Quality Assessment	37

Figures

Figure 1: Application Site and Air Quality Monitoring Sites	19
Figure 2: Site Plan Showing Storage Areas	21
Figure 3: 15 Year Average Wind Rose Heathrow Airport	25
Figure 4: Sensitive Areas within 100m of the Application Site Boundary	26

1 Introduction

- 1.1.1 Air Quality Assessments Ltd (AQA) has been commissioned by Stantec to undertake an air quality and dust risk assessment in support of an Enforcement Notice Appeal at Rainbow Industrial Estate, Trout Road, West Drayton, UB7 7XT. The application site is shown in **Figure 1**.
- 1.1.2 The Enforcement Notice was issued by the London Borough of Hillingdon (LBH) on 3rd September 2021 (Ref: HS/ENF/019144) and takes effect on 15th October 2021. The reasons for issuing the Enforcement Notice relevant to air quality is set out in reason (b):
- The unauthorised use of the land would cause unacceptable adverse impacts arising from dust and deteriorating air quality resulting in significant harm to the living conditions and wellbeing of neighbouring residents in this Air Quality Management Area. The development therefore conflicts with paragraph 186 of the NPPF (2021), Policy SI 1 of the London Plan (2021), Policies BE1 and EM8 of the Hillingdon Local Plan: Part 1- Strategic Policies (2012) and Policies DME1 14 and DMHB 11 of the Hillingdon Local Plan: Part 2 - Development Management Policies (2020).*
- 1.1.3 The Enforcement Notice follows a 2021 Application for temporary use of the site which was refused on 19th August 2021 (LPA Ref: 38058/APP/2021/1327). The proposed development would involve the installation of two portacabins and retention of entrance gates and proposed change of use for Use Class Sui Generis including container storage; open and closed storage of building and scaffolding materials; storage of aggregate materials; vehicle storage and sales for a period of 36 months.
- 1.1.4 Reason 2 for refusal is replicated in reason (b) for the Enforcement Notice.
- 1.1.5 The application site previously had a temporary (12 month) permission to operate as an airport parking car park. Prior to this, outline planning permission and Reserved Matters has been approved for redevelopment of the wider Rainbow and Kirby Industrial Estates site (which includes this site) for a mixed use development including the *demolition of existing premises and erection of 99 residential units (C3), 50-unit extra care/dementia sheltered housing scheme (C3), 1,529.4sqm light industrial floorspace comprising 17 business units (B1c) and 611.30sqm of restaurant/cafe (A3) floorspace, associated open space, car parking and landscaping.*
- 1.1.6 The 2021 Application was sought for a temporary period of three years as a meanwhile use of the site whilst a new mixed use scheme for the wider Rainbow and Kirby Industrial sites is discussed with the LPA during pre-application discussions and a formal planning application is then submitted and determined.
- 1.1.7 There is a risk that traffic generated by the proposed temporary development may affect an air quality management area (AQMA), declared by the Hillingdon Council for exceedances of the annual mean nitrogen dioxide (NO₂) objective. However, the impacts have been screened as insignificant using criteria in Environmental Protection

UK (EPUK) and the Institute of Air Quality Management (IAQM)¹ guidance on Land-Use Planning & Development Control: Planning for Air Quality (EPUK and IAQM, 2017).

- 1.1.8 This report describes the existing conditions in the area with regard to dust, including fine particulate matter (PM₁₀), and assesses the likely impact that emissions from the operation of the proposed development would have on local air quality and the amenity of receptors close to the application site.
- 1.1.9 There would be no gas use at the proposed development; therefore, an air quality neutral assessment with regards building emissions would not be required.
- 1.1.10 The planning application is for Sui Generis use; therefore, it is not possible to compare the scheme trip data with any land use class in the guidance on the application of the air quality neutral policy (AQC, 2014).
- 1.1.11 Trip data for the scheme has been obtained from a traffic survey undertaken at the site access onto Trout Way as part of a revised Transport Assessment, which did not differentiate between the different land uses at the site (YES Engineering Group Limited, 2021). Therefore, it is not possible to undertake an air quality neutral assessment with regards transport emissions. As the proposed development is for a temporary use, it is considered that the cumulative impact on overall air quality in London due to transport emissions from the proposed development would not be significant.
- 1.1.12 The assessment has been prepared taking into account all relevant local and national guidance and regulations. The references used in this assessment are shown in **Section 10**.

¹ The IAQM are the professional body for air quality professionals.

2 Road Traffic Impacts Screening

2.1. Method

- 2.1.1 Guidance for air quality and planning officers within local authorities, and developers and consultants involved in air quality assessments, has been published by Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) in Land-Use Planning & Development Control: Planning for Air Quality (EPUK and IAQM, 2017). The guidance sets out criteria to help establish when an air quality assessment is likely to be considered necessary.
- 2.1.2 For impacts of existing air quality in new development, the requirement for an assessment should be based on professional judgement, taking into account:
- the background and future baseline air quality and whether this will be likely to approach or exceed the values set by air quality objectives;
 - the presence and location of Air Quality Management Areas as an indicator of local hotspots where the air quality objectives may be exceeded;
 - the presence of a heavily trafficked road, with emissions that could give rise to sufficiently high concentrations of pollutants (in particular NO₂), that would cause unacceptably high exposure for users of the new development; and
 - the presence of a source of odour and/or dust that may affect amenity for future occupants of the development.
- 2.1.3 For impacts of development on the local area, a two-stage approach is suggested, with the first stage intended to screen out small developments, and developments considered likely to have insignificant air quality effects. The full criteria are shown in **Appendix A1**. The EPUK/IAQM guidance is clear that:
- “If none of the criteria are met, then there should be no requirement to carry out an air quality assessment for the impact of the development on the local area, and the impacts can be considered as having an insignificant effect.”*
- 2.1.4 The criteria in the EPUK/IAQM guidance and professional judgement have been used to screen the requirement for a full air quality assessment, with the professional experience of the consultant preparing this report set out in **Appendix A2**.

2.2. Screening Assessment

Impact of the Development

- 2.2.1 An estimate of the trips generated by the proposed development has been provided by Yes Engineering, the transport consultants who prepared the revised Transport Assessment (July 2021) for the 2021 Application. The net increase in traffic due from the proposals has been calculated by comparing the scheme trips with those of the previous car park use and the consented mixed-use development. The trip data are shown in **Table 1**.

Table 1: Net Change in Traffic due to the Operation of the Proposed Development

Scheme		Total Daily Trips	Daily Light Vehicle Trips	Daily Heavy Vehicle Trips
Proposed Development (2021 Application)		326	266	60
Consented Scheme (2014 Outline and 2018 Reserved Matters scheme)		351	308	43
Temporary Airport Car Park Use		270	174	96
Net Change	Consented Scheme	-25	-42	17
	Temporary Car Park	56	92	-36

- 2.2.2 When compared with the 2014 & 2018 redevelopment scheme, the 2021 Application would result in an overall decrease in daily traffic on local roads of 25; with a decrease of 42 light vehicle trips and an increase of 17 daily heavy vehicle trips.
- 2.2.3 When compared with previous temporary airport car parking use, the 2021 Application would result in an overall increase in daily traffic on local roads of 56; with an increase of 92 light vehicle trips and a decrease of 36 heavy vehicle trips.
- 2.2.4 When averaged over a year, and with distribution across the local road network, the net change in annual average daily traffic on any one road due to the proposed development (AADT) would be smaller than the daily trips presented in **Table 1**.
- 2.2.5 When the 2021 Application is compared to the temporary car parking use and the 2014 and 2018 redevelopment scheme, the change in light vehicle traffic flows on local roads due to the proposed development would be less than the 100 AADT screening criterion that would require detailed air quality assessment for a site within or affecting an AQMA.
- 2.2.6 When the 2021 Application is compared to the temporary car parking use and the 2014 and 2018 redevelopment scheme, the change in heavy vehicle traffic flows on local roads due to the proposed development would be less than the 25 AADT screening criterion that would require detailed air quality assessment for a site within or affecting an AQMA.
- 2.2.7 With regard to the screening criteria in **Appendix A1**, detailed assessment of the air quality impacts of the development on the surrounding area due to vehicle emissions should not be required and the air quality effects are considered to be insignificant.

Impact on the Development

- 2.2.8 The development is for employment use and there would be no relevant exposure with regard to the air quality objectives at the application site. Therefore, the air quality impact on the development is considered to be insignificant.

3 Legislation, Planning Policy and Guidance

3.1. Legislation

EU Limit Values

- 3.1.1 The European Union's Directive on ambient air quality and cleaner air for Europe (European Parliament, Council of the European Union, 2008) set legally binding limit values for PM₁₀. The Air Quality Standards Regulations 2010 (The Stationary Office, 2010) implement the EU Directive limit values in English legislation. Achievement of the limit values is a national obligation rather than a local one.
- 3.1.2 The limit values are the same as the objective values (see **Table 2**); however, the compliance dates differ, and the limit values apply at all locations (apart from where the public does not have access, where health and safety at work provisions apply and on the road carriageway). The PM₁₀ limit values applied from 2005
- 3.1.3 The United Kingdom left the European Union on 31st January 2020; however, the EU legislation currently remains enshrined in UK law through the Air Quality Standards Regulations.

Clean Air Strategy

- 3.1.4 Part IV of The Environment Act 1995 required the UK Government to prepare an Air Quality Strategy which includes standards and objectives for air quality and sets out measures which are to be taken by local authorities and the government in order to achieve those objectives. The Clean Air Strategy provides an overview of the actions that the government will take to improve air quality and promises new legislation that will tackle air pollution (Defra, 2019).
- 3.1.5 Standards are the concentrations of pollutants in the atmosphere, below which there is a minimum risk of health effects or ecosystem damage; they are set with regard to scientific and medical evidence. Objectives are the policy targets set by the Government, taking account of economic efficiency, practicability, technical feasibility and timescale, where the standards are expected to be achieved by a certain date.
- 3.1.6 Part IV of the Environment Act 1995 also describes the system of Local Air Quality Management (LAQM), which requires every local authority to carry out regular review and assessments of air quality in its area. Where an objective has not been, or is unlikely to be achieved, the local authority must declare an AQMA, and prepare an action plan which sets out appropriate measures to be introduced in pursuit of the objectives.
- 3.1.7 The objectives for PM₁₀, as prescribed by the Air Quality (England) Regulations 2000 and the Air Quality (England) (Amendment) Regulations 2002 (The Stationary Office, 2000; The Stationary Office, 2002), are shown in **Table 2**. The objectives for PM₁₀ were to have been achieved by 2004 and continue to apply in all future years thereafter.

Table 2: The Objectives for PM₁₀

Pollutant	Concentration Measured As	Objective
PM ₁₀	24-hour Mean	50 µg/m ³ not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m ³

3.1.8 The objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed for a period of time appropriate to the averaging period of the objective. Examples of where the objectives should apply are provided in the London Local Air Quality Management Technical Guidance (Mayor of London, 2019). The annual mean PM₁₀ objective should apply at the building façades of residential properties, schools, hospitals, care homes etc.; it should not apply at the building façades of places of work, hotels, gardens or kerbside sites. The 24-hour mean PM₁₀ objective should apply at all locations where the annual mean objective applies, as well as the gardens of residential properties and hotels.

3.2. Planning Policy

National Policies

3.2.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied (Ministry of Housing, Communities & Local Government, 2021). It provides a framework within which locally prepared plans for development can be produced. At Paragraph 8c, the NPPF states that the purpose of the planning system is to contribute to the achievement of sustainable development and includes an overarching 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."

3.2.2 With regard to environmental impacts from traffic, at Paragraph 104 the NPPF states that:

"Transport issues should be considered from the earliest stages of plan-making and development proposals, so that: ...

d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; ..."

3.2.3 The NPPF also states at Paragraph 174 that:

"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; ..."

3.2.4 The NPPF goes on to state at Paragraph 18:

"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."

3.2.5 With specific reference to air quality, the NPPF states at Paragraph 186 that:

"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."

3.2.6 The NPPF also includes the following statement at Paragraph 188:

"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."

3.2.7 The NPPF is supported by Planning Practice Guidance (PPG) (Ministry of Housing, Communities & Local Government, 2019). The PPG states that:

"Defra carries out an annual national assessment of air quality using modelling and monitoring to determine compliance with relevant Limit Values. It is important that the potential impact of new development on air quality is taken into account where the national assessment indicates that relevant limits have been exceeded or are near the limit, or where the need for emissions reductions has been identified."

3.2.8 The PPG goes on to state that:

"Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of

habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity.”

- 3.2.9 The PPG also sets out the information that may be required in an air quality assessment, stating that:

“Assessments need to be proportionate to the nature and scale of development proposed and the potential impacts (taking into account existing air quality conditions), and because of this are likely to be locationally specific.”

- 3.2.10 It also provides guidance on options for mitigating air quality impacts, and makes clear that:

“Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact.”

- 3.2.11 The PPG makes clear that:

“... dust can also be a planning concern, for example, because of the effect on local amenity.”

Regional Policies and Guidance

- 3.2.12 The London Plan sets out the spatial development strategy for London and presents a London-wide policy framework, including Policy S11 Improving Air Quality, which states (GLA, 2021):

“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 at 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 in Part 1, as a minimum:

- a) development proposals must be at least Air Quality Neutral*
- 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 retro-fitted 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 positive approach. 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 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.”

3.2.13 The London Plan is supported by Supplementary Planning Guidance, (SPG) on The Control of Dust and Emissions during Construction and Demolition (GLA, 2014). The SPG includes criteria that require a dust risk assessment for all major developments in London, a major residential development being defined in the London Plan as having 10 or more dwellings.

3.2.14 The Mayor’s London Environment Strategy sets out objectives, policies and proposals that will improve air quality in London, with the aim of reducing exposure of Londoners to harmful pollution, achieving compliance with the EU limit values as soon as possible and establishing and achieving tighter air quality targets (GLA, 2018). Proposals include improving information about air quality, encouraging new developments to take into account local air quality, maintaining the LAEI and monitoring networks, promoting and prioritising sustainable transport modes, phasing out the use of fossil fuels with the aim of a zero emissions transport system, tackling unnecessary idling, and reducing emissions from engines and plant.

Local Policies

3.2.15 The Hillingdon Local Plan Part 1 includes Policy BE1: Built Environment (Hillingdon Council, 2012);, the relevant parts of which state:

“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: ...

- 2. Be designed to be appropriate to the identity and context of Hillingdon's buildings, townscapes, landscapes and views, and make a positive contribution to the local area*

in terms of layout, form, scale and materials and seek to protect the amenity of surrounding land and buildings, particularly residential properties; ..."

3.2.16 Policy EM8: Land, Water, Air and Noise of the Hillingdon Local Plan Part 1 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 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."

3.2.17 The Hillingdon Local Plan Part 2, Development Management Policies, includes Policy DMEI 14 Air Quality (Hillingdon Council, 2020a), which states:

"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."

3.2.18 The relevant parts of the Hillingdon Local Plan Part 2, Development Management Policies Policy DMHB 11: Design of New Development state:

"... B) Development proposals should not adversely impact on the amenity, daylight and sunlight of adjacent properties and open space. ..."

Air Quality Action Plan

3.2.19 Hillingdon Council have published an Air Quality Action Plan (Hillingdon Council, 2019). The action plan aims to achieve its objectives through a range of measures that would reduce air pollution in the borough.

3.3. Guidance

- 3.3.1 The Institute of Air Quality Management (IAQM) has published Guidance on the Assessment of Mineral Dust Impacts for Planning (IAQM, 2016). The guidance has been prepared to assist practitioners in undertaking dust assessments for the operational phases of minerals developments. Although the proposed development is not a minerals development, it is considered that dust generating activities at the site would be similar to some minerals operations and that it is appropriate to follow the source-pathway-receptor approach underlying the IAQM dust assessment method for assessing the impacts of the operation of the proposed development.

4 Methodology

4.1. Existing Conditions

4.1.1 Information on existing air quality within the study area has been collated from the following sources:

- The results of monitoring and the LAQM review and assessment reports undertaken by Hillingdon Council (Hillingdon Council, 2020b); and
- Background pollutant concentration maps published by Defra (Defra, 2021).

4.2. Operational Dust Impacts

4.2.1 The IAQM Guidance on the Assessment of Mineral Dust Impacts for Planning includes an assessment methodology, which has been used for this assessment.

4.2.2 Locations sensitive to dust emitted during site operations will be places where members of the public are regularly present. Residential properties and commercial operations close to the application site will be most sensitive to operational dust. Any areas of sensitive vegetation or ecology that are very close to dust sources may also be susceptible to some negative effects.

4.2.3 The IAQM minerals guidance describes a qualitative source-pathway-receptor approach to determine the risk of dust effects. The assessment method uses a number of steps to determine the site characteristics and baseline conditions, an estimate of the dust impact risk and an estimate of the likely magnitude of effects. Potential dust sources and activities have been identified and the risk of impacts at sensitive receptors determined based on the prevailing meteorological conditions and topography, the likely magnitude of emissions (with mitigation in place) and the distances over which effects may occur.

4.2.4 The IAQM minerals dust guidance divides activities on minerals sites into seven types to reflect their different potential impacts. The activities relevant to operations at the proposed development include:

- Material handling;
- On-site transportation;
- Stockpiling/exposed surfaces; and
- Off-site transportation.

4.2.5 A series of steps then consider the potential impact due to:

- the risk of health effects from an increase in exposure to PM₁₀;
- annoyance due to the deposition of dust;
- harm to the natural environment.

Screening

4.2.6 A detailed dust assessment would usually be required where there is a human or sensitive ecological receptor within 250m of a sand and/or gravel site, or within 400m of a hard rock quarry, measured from the nearest dust generating activities.

- 4.2.7 Where there are no sensitive receptors within 250m of a sand and/or gravel site, or within 400m of a hard rock quarry, it would normally be assumed that a detailed dust assessment is not required.
- 4.2.8 The sensitivity of receptors is defined in to ecological effects is defined in **Table 3**, **Table 4** and **Table 5**; however, professional judgement should be used to identify where on the spectrum between high and low sensitivity a receptor lies.

Table 3: Sensitivities of People to Dust Soiling

Class	Principles	Examples
High	Users can reasonably expect enjoyment of a high level of amenity; or the appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.	Dwellings, museum and other culturally important collections, medium and long term car parks and car showrooms.
Medium	Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or the appearance, aesthetics or value of their property could be diminished by soiling; or the people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.	Parks and places of work.
Low	The enjoyment of amenity would not reasonably be expected; or property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; or there is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.	Playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.

Table 4: Sensitivities of People to PM₁₀

Class	Principles	Examples
High	Locations where members of the public may be exposed for eight hours or more in a day.	Residential properties, hospitals, schools and residential care homes.
Medium	Locations where the people exposed are workers, and where individuals may be exposed for eight hours or more in a day.	Office and shop workers, but will generally not include workers occupationally exposed to PM ₁₀
Low	Locations where human exposure is transient.	Public footpaths, playing fields, parks and shopping streets.

Table 5: Sensitivities of Receptors to Ecological Effects

Class	Principles	Examples
High	Locations with an international or national designation and the designated features may be affected by dust soiling; or locations where there is a community of a particularly dust sensitive species.	Special Areas of Conservation (SAC) with dust sensitive features.
Medium	Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or locations with a national designation where the features may be affected by dust deposition.	Sites of Special Scientific Interest (SSSI) with dust sensitive features.
Low	Locations with a local designation where the features may be affected by dust deposition.	Local Nature Reserves with dust sensitive features.

Dust Impact Risk and Magnitude of Dust Effect

4.2.9 The amenity dust impact risk is determined by combining the residual source emissions and the pathway effectiveness, as shown in **Table 6**. The magnitude of the dust effect is then described by combining the dust impact risk with the receptor sensitivity, as shown in **Table 7**. The significance of the effect on amenity is determined to be either significant or not significant. The judgement of significance should be made by a competent, suitably qualified professional, and the professional experience of the consultant preparing this report is set out in **Appendix A2**.

4.2.10 With regard to health effects, the IAQM minerals guidance takes the approach that, if background ambient PM₁₀ concentrations are below 17µg/m³, there is little risk that a process contribution from a dust source would lead to an exceedance of the objectives. For this assessment, should the background PM₁₀ concentration at the application site be less than 17µg/m³, the impact from the proposed development on health will be deemed as not significant.

4.2.11 Where background PM₁₀ concentrations are above 17 µg/m³, the impact has been described by estimating the contribution to annual mean PM₁₀ concentrations due to the operation of the proposed development and adding this to the background PM₁₀ concentration to determine the total annual mean PM₁₀ concentration and comparing this with the annual mean air quality objective.

Table 6: Estimation of Dust Impact Risk

Pathway Effectiveness	Residual Source Emissions		
	Small	Medium	Large
Highly Effective	Low	Medium	High
Moderately Effective	Negligible	Low	Medium
Ineffective	Negligible	Negligible	Low

Table 7: Descriptors for Magnitude of Dust Effects

Dust Impact Risk	Receptor Sensitivity		
	Low	Medium	High
High	Slight Adverse	Moderate Adverse	Substantial Adverse
Medium	Negligible	Slight Adverse	Moderate Adverse
Low	Negligible	Negligible	Slight Adverse
Negligible	Negligible	Negligible	Negligible

4.2.12 The residual source emissions and pathway effectiveness have been defined using the following guidelines.

Residual Source Emissions

4.2.13 The IAQM guidance sets out examples of the residual source emissions magnitude for a number of activities (see **Table 8**). The residual source emissions take account of designed in mitigation measures and landscaping.

Table 8: Examples of Residual Source Emissions Magnitude

Large	Small
Materials Handling	
High no. heavy plant (>10 loading plant)	Low no. of heavy plant (<5 loading plant)
Unconsolidated / bare surface	Hard standing surface
Activities close to site boundary (<50m of site boundary)	Activities within quarry void or >100m of site boundary
Material of high dust potential	Material of low dust potential
On-site Transportation	
Unconsolidated/unpaved haul road	Conveyors and/or paved haul road
Road surface of high dust potential	Road surface of low dust potential
High no. of HDV movements (>250)	Low no. of HDV movements (<100)
High total haul road length	Low total haul road length (<500m)
Uncontrolled vehicle speed	Controlled vehicle speed (<15 mph)
Stockpiles / Exposed Surfaces	
Long term stockpile (>12 months)	Short term stockpile (<1 month)
Frequent material transfers (daily)	Infrequent material transfers (weekly)
Material of high dust potential	Material of low dust potential
Unconsolidated ground surface	Hardstanding
Stockpiles close to boundary (<50m)	Stockpiles well within quarry void or away from boundary (>100 m)
Large areas of exposed surfaces (>10ha)	Small areas of exposed surfaces (<2.5 ha)
High wind speeds / low dust threshold	Low wind speeds / high dust threshold
Large quarry production (1,000,000 tpa)	Small quarry production (<200,000 tpa)
Off-site Transportation	
High no. HDV movements (>200/day)	Low no. HDV movements (<25/day)
Unconsolidated access road	Paved access road
Limited/no vehicle cleaning facilities	Extensive vehicle cleaning facilities
Small length of access road (<20m)	Large length of access road (>50m)

Pathway Effectiveness

4.2.14 A frequency category, derived from wind and rainfall data (**Table 9**), and a receptor distance category (**Table 10**) are combined in a matrix (**Table 11**) to classify the pathway effectiveness.

Table 9: Categorisation of Frequency of Potentially Dusty Winds

Frequency Category	Criteria
Infrequent	Frequency of winds (>5 m/s) from the direction of the dust source on dry days are less than 5%
Moderately Frequent	The frequency of winds (>5 m/s) from the direction of the dust source on dry days are between 5% and 12%
Frequent	The frequency of winds (>5 m/s) from the direction of the dust source on dry days are between 12% and 20%
Very Frequent	The frequency of winds (>5 m/s) from the direction of the dust source on dry days are greater than 20%

Table 10: Categorisation of Receptor Distance from Source

Receptor Distance Category	Criteria
Distant	Receptor is between 200m and 400m from dust source
Intermediate	Receptor is between 100m and 200m from dust source
Close	Receptor is less than 100m from dust source

Table 11: Pathway Effectiveness

Receptor Distance Category	Frequency of Potentially Dusty Winds			
	Infrequent	Moderately Frequent	Frequent	Very Frequent
Close	Ineffective	Moderately Effective	Highly Effective	Highly Effective
Intermediate	Ineffective	Moderately Effective	Moderately Effective	Highly Effective
Distant	Ineffective	Ineffective	Moderately Effective	Moderately Effective

5 Baseline Conditions

5.1. LAQM Review and Assessment

- 5.1.1 Hillingdon Council has declared an AQMA for exceedances of the annual mean NO₂ objective that covers the entire southern part of the borough south of the A40 corridor.
- 5.1.2 In terms of PM₁₀, Hillingdon Council has concluded that there are no exceedances of the objectives; therefore, it is highly unlikely concentrations in the vicinity of the application site exceed the objectives (Hillingdon Council, 2020b).

5.2. Local Air Quality Monitoring

- 5.2.1 Hillingdon Council operates nine automatic PM₁₀ monitoring sites. Measured data from the automatic monitoring sites located within 3km of the application site are shown in **Table 12**, and the monitoring locations are shown in **Figure 1**. Monitoring results from the years 2013 to 2019 show that there have been no exceedances of the annual mean or 24-hour mean PM₁₀ objectives at either of the monitoring sites located within 3km of the application site.

Table 12: Summary of PM₁₀ Monitoring Data ^a

Table 22: Summary of Air Monitoring Data									
Location	ID	Site Type ^a	2013	2014	2015	2016	2017	2018	2019
Annual Mean (µg/m³)									
Harmondsworth	HIL1	R	22	21	22	23	23	18	15
Harmondsworth	HIL4	UB	17	12.1	17	16	14	16	14
Objective			40						
Number of Days > 50 µg/m									
Harmondsworth	HIL1	R	7	7	4	4	6	1	0
Harmondsworth	HIL4	UB	2	0	17	0	1	0	1
Objective			35						

^a R = Roadside, UB = Urban Background.

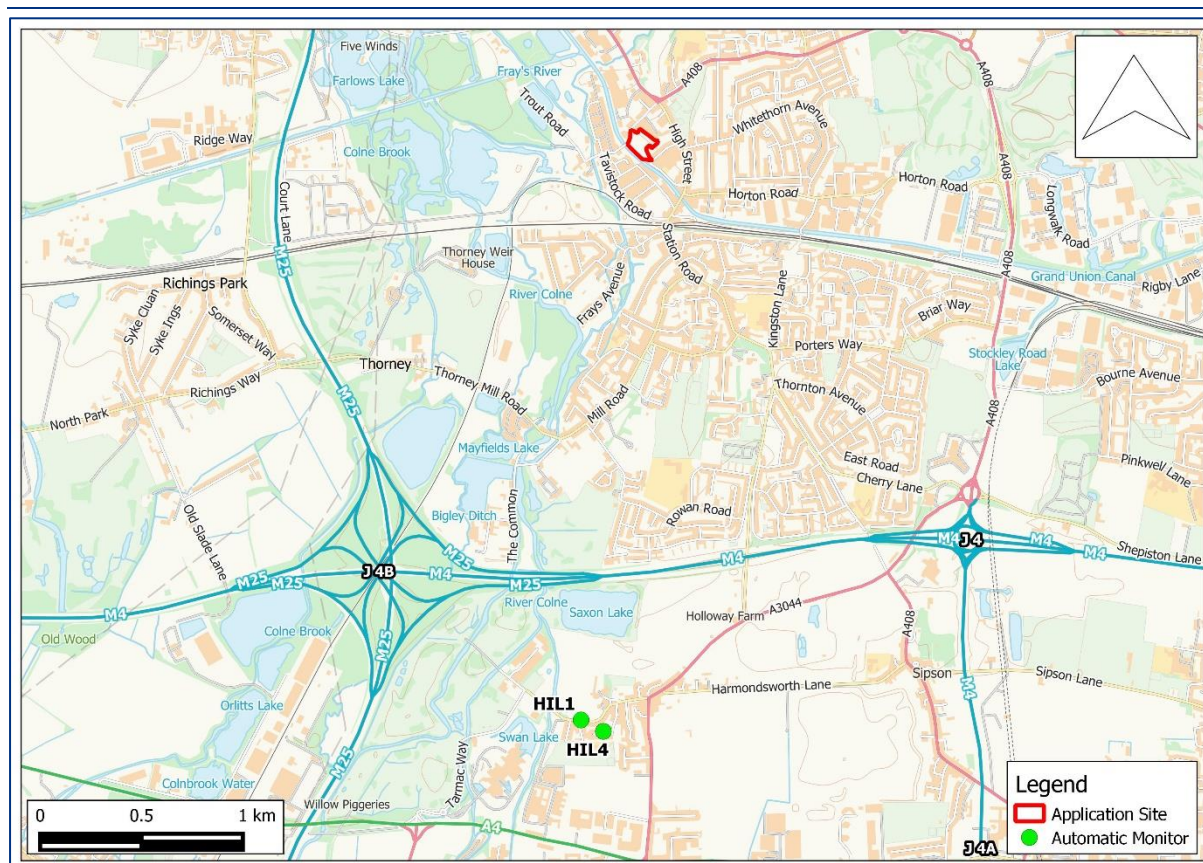


Figure 1: Application Site and Air Quality Monitoring Sites

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5.3. Background Concentrations

5.3.1 The estimated background PM₁₀ concentration at the application site is shown in **Table 13**. The background concentration is well below the objective.

Table 13: Estimated Annual Mean Background Concentrations in 2021 (µg/m³)

Grid	PM ₁₀
505500,180500	16.1
Objective	40

6 Operational Phase Impacts

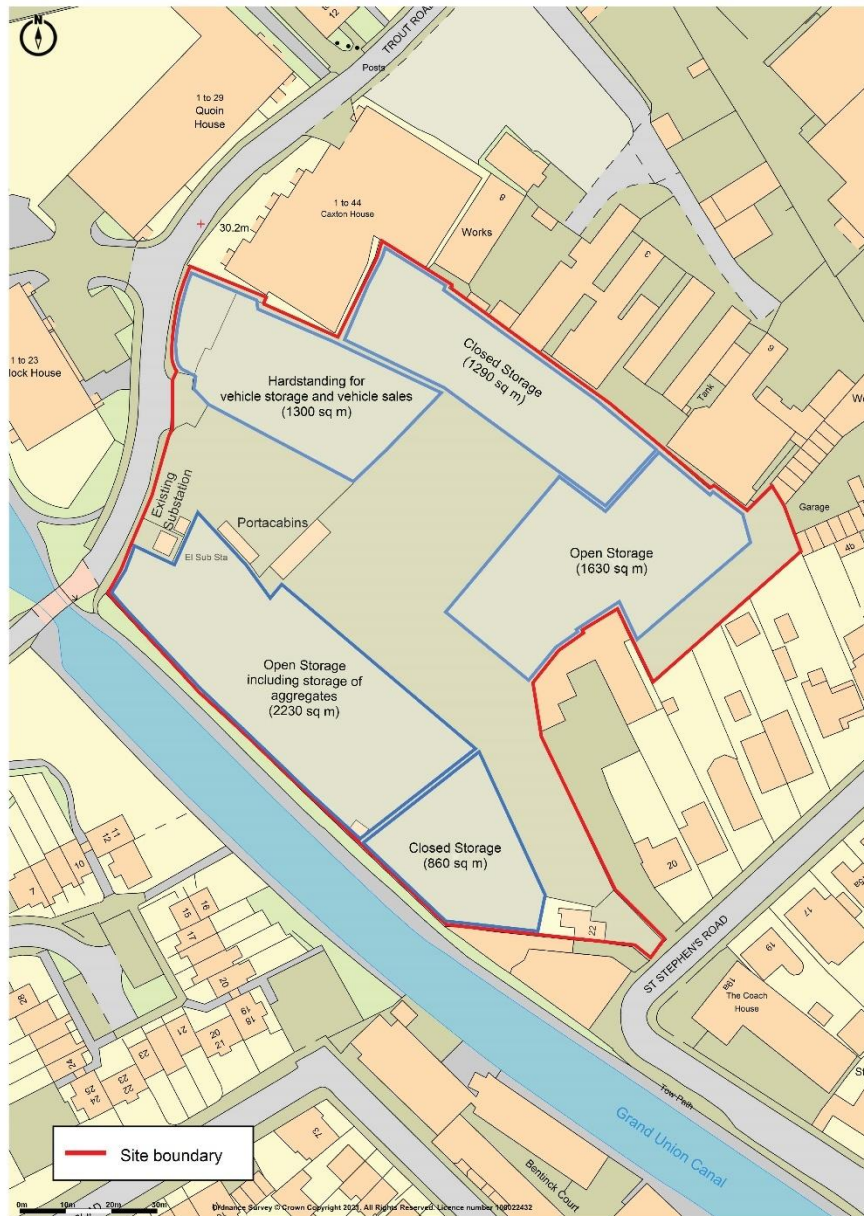
6.1. Screening

- 6.1.1 The operation of the proposed development as set out in the 2021 Application could potentially lead to dust emissions. There are human receptors within 250m of the application site boundary; therefore, a detailed dust assessment is required. There are no designated sensitive habitats within 250m of the application site; however, Hillingdon Council has raised concerns regarding the effects of dust on the Grand Union Canal as part of the Enforcement Notice and refusal of the 2021 Application and this has been assessed.

6.2. Dust Generating Activities

- 6.2.1 Parts of the proposed development would be used for the reception and storage of aggregate materials and building and scaffolding materials. The use would be for a temporary period of three years.
- 6.2.2 There would be up to thirty containers for general closed storage within the site. The containers on site would be standard shipping containers, measuring 8ft (w) by 20ft (l) by 8.5ft (h). The number of the containers would be flexible depending on tenant demand and these would be located in the two closed storage areas shown in **Figure 2**.
- 6.2.3 Two areas of open storage, used for storage of building materials (marble stone, bricks etc) and scaffolding materials (poles, scaffolding canopy and decked planks and associated fittings) are also shown in **Figure 2**. Open steel racks will be used for the storage of the materials.
- 6.2.4 The southern open storage area would also be used for the storage of aggregates. The aggregate storage would comprise of 10mm to 20mm shingle and sharp sand, with one load of 20 tonnes of each. There would be no processing of aggregates on site, just storage until placement on trucks for transport offsite.
- 6.2.5 Following the issue of the Enforcement Notice, the Applicant has agreed that aggregate storage could be stored within enclosed containers - details of this could be conditioned if the Enforcement Appeal or a revised application is allowed. Additionally, an internal spine road has been laid out within the site so that vehicles are using a concreted road rather than unmade ground which again may limit dust disturbance.
- 6.2.6 The following activities identified in the IAQM mineral dust guidance are relevant to this assessment:
- Materials handling;
 - On-site transportation;
 - Mineral processing;
 - Stockpiles;
 - Off-site transportation.

Proposed Site Plan - Storage Areas Land at Former Rainbow Industrial Estate



Promap
LANDMARK INFORMATION

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Figure 2: Site Plan Showing Storage Areas

6.3. Residual Source Emissions

- 6.3.1 The residual source emissions, i.e., the emissions with designed in mitigation in place, have been estimated for each of the potentially dust generating activities.

Material Handling

- 6.3.2 The building materials stored in the open storage area would not be particularly inherently dusty, with any dust due to contamination of the surfaces from use on construction sites. The containers used for closed storage would prevent any dust emissions from materials stored within.
- 6.3.3 The aggregates would be delivered to stockpiles and there would be some potential for emissions during delivery; however, the stockpiles would remain undisturbed until aggregates were taken for use offsite. The volume of stored materials would be relatively small, with just two stockpiles of 20 tonnes each, and the scale of handling of the stockpiled materials would be small. Just one shovel loader would be in use at the site.
- 6.3.4 With regard to **Table 8** the residual source emission magnitude due to material handling is considered to be small. There is unlikely to be any dust from open and closed storage; however, to provide a conservative assessment, it has been assumed that dust could be emitted from any part of the storage areas.

On-site Transportation

- 6.3.5 There would be minimal transport of material on-site. Materials would be delivered and placed in storage and would then not be moved until loading onto trucks for transport off-site.
- 6.3.6 There is an area of hardstanding by the Trout Road entrance; however, much of site is unmade ground. An internal access road has been laid out following the issue of the Enforcement Notice to minimise the resuspension of dust and this, and the area of hardstanding, would be kept free from dust as much as possible. When necessary, a road sweeper would be used on the hard surface and access road to remove dust, and water suppression would be used during dry conditions.
- 6.3.7 There would be around 60 heavy vehicle movements daily. Not all of these vehicles would travel over the unmade ground, and the distance travelled over unmade ground would be low.
- 6.3.8 With regard to **Table 8** the residual source emission magnitude due to material on-site transportation is considered to be small.

Stockpiles

- 6.3.9 The volume of stored aggregates would be relatively small, with just two stockpiles of 20 tonnes each. The aggregates would be stored in stockbays, which would be high sided to prevent windblown emissions and contain the aggregates, preventing spread across the surface of the site. The stockbays would be watered as necessary during dry conditions. There would be very little dust from the storage of the building materials and enclosed storage would further limit dust. With regard to **Table 8**, the residual source emission magnitude for the stockpiles is considered to be small.

Off-site Transportation

6.3.10 There would be around 30 heavy vehicle movements out of the site daily. Many of these vehicles would carry enclosed containers and building materials with a low dust potential, with no risk of dust emissions from the load. Heavy vehicles leaving the site with aggregate loads would be covered prior to leaving the site. HGVs leaving the site would travel over a clean hard surface before joining Trout Road. Light vehicles would only travel on the clean, hard surfaced area and would not track dust. A road sweeper would be used as necessary on the site and the local highway to clean up any potentially dusty spillages. Additional water abatement would be used during dry conditions. The use of water abatement and the lack of dusty materials on the ground would prevent the track-out of dust onto the local road network. Therefore, with regard to **Table 8**, the residual source emission magnitude for the changes at the site is considered to be small.

Summary of Residual Source Emissions

6.3.11 A summary of the residual source emissions is shown in **Table 14**.

Table 14: Summary of Residual Source Emissions for Each Phase

Activity	Residual Source Emissions
Materials Handling	Small
On-site Transportation	Small
Stockpiles	Small
Off-site Transportation	Small

6.4. Pathway Effectiveness

6.4.1 The transport of fugitive dust in the air is dependent on the prevailing meteorological conditions. Receptors downwind of the dust emissions source, with regard to the prevailing wind, will be exposed to dust more frequently than those located upwind. A 15-year average wind rose from Heathrow Airport meteorological station (see **Figure 3**) shows that the prevailing wind direction is from the southwest. The Heathrow Airport meteorological station is located approximately 5km to the south of the application site and wind conditions are likely to be similar to those at the application site.

6.4.2 There is a risk that dust could be entrained from the ground even when no dust generating activities are taking place. Wind speeds greater than 5 m/s are considered strong enough to initiate the suspension of dust from the ground, and the risk is increased on dry days, i.e., when less than 0.2 mm of rainfall are recorded over a 24-hour period. The prevailing wind data show that, for approximately 69% of the time, wind speeds are likely to be below 5 m/s, when dust is unlikely to become suspended in the air.

6.4.3 Analysis of average rainfall data for the area shows that, over the 30-year period from 1981 to 2010, an average of 150-160 days will be wet days, i.e., rainfall will be greater

than 0.2 mm (Met Office, 2021). Therefore, for approximately 42% of the time, daily rainfall will be greater than 0.2 mm, when there will be natural dust suppression.

- 6.4.4 High sensitivity receptors within 100m of the application site are shown in **Figure 4**. As the residual source emissions would be small, the impact at medium sensitivity commercial receptors within 100m and highly sensitive receptors between 100 and 200m of the application site would be negligible, regardless of the pathway effectiveness. Receptors located beyond buildings facing the site would be shielded from the application site by those buildings, that form a barrier to dust emissions.
- 6.4.5 The Grand Union Canal has not been designated as a site for wildlife interest or habitat protection; therefore, it has been classed as being of low sensitivity to dust.
- 6.4.6 The wind frequency category, estimated from the meteorological data and with regard to **Table 9**, is shown in **Table 15**. To provide a conservative assessment, it has been assumed that dust emissions could occur from any point within the application site.
- 6.4.7 The potential impact of dust emissions at receptors is dependent on the distance from the source to the receptor and the presence of any physical features that may affect dispersion. Particles responsible for most dust annoyance will usually deposit within 100m of the source and within this distance receptors would be categorised as close (see **Table 10**). Combining the wind frequency category with the receptor distance category using **Table 11** determines the pathway effectiveness for each receptor, as shown in **Table 16**.

6.5. Potential Dust Deposition Effects

- 6.5.1 The pathway effectiveness for each receptor area has been combined with the overall residual source emissions to estimate the dust impact risk at each receptor area using **Table 6**. The dust impact risk and receptor sensitivity have then been used to determine the magnitude of the dust effect at each receptor using **Table 7**. The dust deposition effects are described as negligible at most receptors; however, there is a slight adverse risk of dust deposition effects at receptors R3 and R4, as summarised in **Table 17**.

6.6. Health Effects

- 6.6.1 The IAQM minerals dust guidance takes the approach that there is little risk that a process contribution from a dust source would lead to an exceedance of the objectives where background ambient annual mean PM₁₀ concentrations are below 17µg/m³.
- 6.6.2 The area around the application site that may be affected by PM₁₀ emissions due to operations at the site is likely to have similar air quality to that measured at the HIL1 and HIL4 automatic monitoring sites. Annual mean PM₁₀ concentrations at the HIL1 and HIL4 automatic monitoring sites ranged from 14-15 µg/m³ in 2019. Therefore, it is considered that the proposed development would have an insignificant effect on health due to fugitive emissions of PM₁₀.

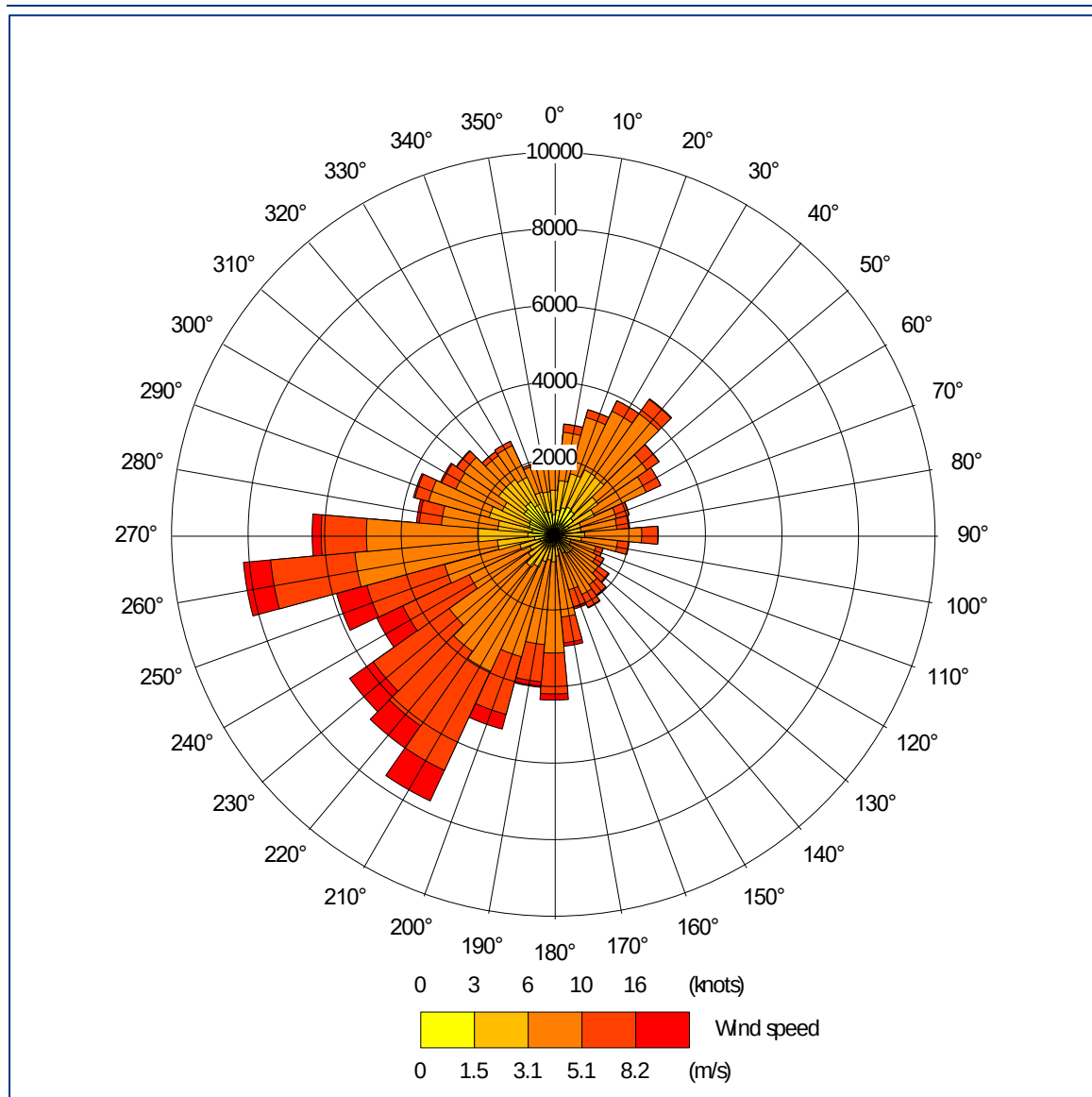


Figure 3: 15 Year Average Wind Rose Heathrow Airport

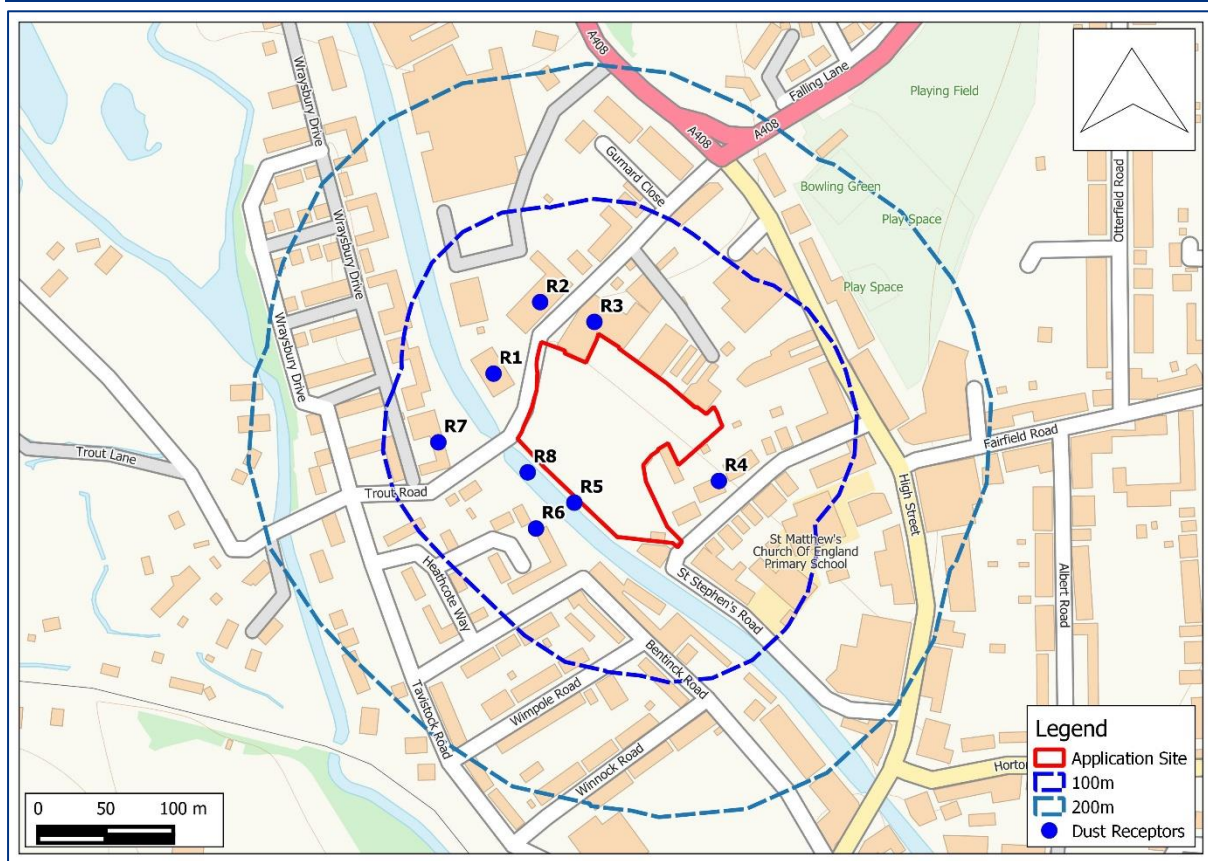


Figure 4: Sensitive Areas within 100m of the Application Site Boundary

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Table 15: Wind Frequency Category for Each Receptor Area during each Phase

Receptor	Receptor	Wind Sectors Affecting Receptor Area (°)	Frequency of Wind >5m/s Towards Receptor Area (%)	Frequency of Wind >5m/s Towards Receptor Area on Dry Days (%)	Wind Frequency Category
R1	Rowlock House	80-170	16	4	Infrequent
R2	Quoin House	90-210	30	11	Moderately Frequent
R3	Caxton House	90-260	55	24	Very Frequent
R4	St Stephen's Rd	180-40	76	26	Very Frequent
R5	Grand Union Canal Moorings	320-120	34	5	Moderately Frequent

Receptor	Receptor	Wind Sectors Affecting Receptor Area (°)	Frequency of Wind >5m/s Towards Receptor Area (%)	Frequency of Wind >5m/s Towards Receptor Area on Dry Days (%)	Wind Frequency Category
R6	Peplow Close	330-100	30	4	Infrequent
R7	Sandpiper House	40-120	17	3	Infrequent
R8	Grand Union Canal	320-130	35	5	Moderately Frequent

Table 16: Pathway Effectiveness for Each Receptor Area

Receptor	Frequency of Potentially Dusty Wind	Receptor Distance Category	Pathway Effectiveness
R1	Infrequent	Close	Ineffective
R2	Moderately Frequent	Close	Moderately Effective
R3	Very Frequent	Close	Highly Effective
R4	Very Frequent	Close	Highly Effective
R5	Moderately Frequent	Close	Moderately Effective
R6	Infrequent	Close	Ineffective
R7	Infrequent	Close	Ineffective
R8	Moderately Frequent	Close	Moderately Effective

Table 17: Summary of Dust Deposition Effects

Receptor ID	Overall Residual Source Emissions	Pathway Effectiveness	Dust Impact Risk	Receptor Sensitivity	Magnitude of Dust Effect
R1	Small	Ineffective	Negligible	High	Negligible
R2	Small	Moderately Effective	Negligible	High	Negligible
R3	Small	Highly Effective	Low	High	Slight Adverse
R4	Small	Highly Effective	Low	High	Slight Adverse

Receptor ID	Overall Residual Source Emissions	Pathway Effectiveness	Dust Impact Risk	Receptor Sensitivity	Magnitude of Dust Effect
R5	Small	Moderately Effective	Negligible	High	Negligible
R6	Small	Ineffective	Negligible	High	Negligible
R7	Small	Ineffective	Negligible	High	Negligible
R8	Small	Moderately Effective	Negligible	Low	Negligible

7 Dust Management Plan

7.1. Mitigation

- 7.1.1 The magnitude of dust effects at local receptors has been shown to be negligible at most receptors, with a slight risk of dust effects at dwellings located at Caxton House (R3) and on St Stephen's Road (R4). In order to minimise the risk of adverse dust effects at local receptors a Dust Management Plan (DMP) has been prepared.
- 7.1.2 The following dust control measures would be designed into the scheme, and should provide an appropriate level of mitigation.
- Much of surface at the site is hard surfaced, and vehicles leaving the site will travel across a clean, hard surface before joining Trout Road;
 - Hard surfaces would be regularly swept using road sweeping plant, with water suppression used as necessary;
 - Aggregate storage bays will be high sided and enclosed,
 - Aggregates will be dampened as necessary during dry weather;
 - Drop heights will be minimised;
 - A speed limit of 10mph will limit resuspension of dust;
 - Vehicles bringing in, or taking out dusty materials will be sheeted; and
 - Water suppression will be used as necessary.
- 7.1.3 During adverse weather conditions, such as prolonged dry weather and/or high winds, additional water suppression will be used to prevent dust emissions from the site. Activities with the potential to cause dust emissions will be monitored, and should visible dust be generated, corrective will be taken, including the use of water suppression.

7.2. Roles and Responsibilities

- 7.2.1 The day-to-day operations at the site would be the responsibility of the Site Manager. All operational staff members and sub-tenants would be responsible for minimising any dust emissions from the site and would be trained in their responsibilities with regards dust control at the site. When abnormal dust emissions are observed, staff/tenants would be instructed to report this to the Site Manager without delay.
- 7.2.2 It would be the responsibility of the Site Manager to organise action to mitigate emissions of fugitive dust.

7.3. Monitoring

- 7.3.1 All site personnel will be responsible for reporting dust problems to the Site Manager immediately, on an on-going basis.
- 7.3.2 A daily visual inspection will be carried out by the Site Manager, or an appropriately trained member of staff. The inspection will consist of a walk around potentially dust emitting areas with observations made of any dust emissions detected. Particular attention will be paid to any areas where there is a greater risk of dust emissions, such as the aggregates stockpiles. A record of the inspection will be maintained in a site logbook. If significant dust is identified beyond the site boundary, immediate investigation/remedial action will be taken and this will be recorded in the site

logbook. The Site Manager will review the logbook regularly to ensure that any necessary actions have been implemented, and to identify problem areas where more may need to be done to mitigate against further dust emissions.

7.3.3 During adverse meteorological conditions, when it is dry and/or windy, additional inspections shall be carried out downwind of any dust generating activities.

7.3.4 The council shall be informed if dust emissions are likely to have an effect on the local community.

7.4. Trigger Levels and Corrective Action

7.4.1 In the event that the following conditions are experienced on site, additional mitigation measures will be employed:

- A complaint regarding dust is made; or
- Observations of dust due to site operations extending beyond the site boundary.

7.4.2 The additional measures will include:

- Immediate identification of the source of the dust;
- Cleaning up any spillages of potentially dusty materials;
- The liberal use of water suppression; and
- Covering or sheeting sources of unacceptable dust emissions (where possible);

7.4.3 In the event that unacceptable dust emissions continue, despite the additional mitigation measures, consideration should be given to modifying site operations and temporarily suspending dust generating operations until the issue can be resolved.

7.5. Record Keeping and Auditing

7.5.1 A notice will be displayed at the site entrance displaying:

- The name of the site operator; and
- An emergency contact name and telephone number;

7.5.2 Complaints made directly to the site will be recorded in the site logbook and the Site Manager informed. The dust emission source will be investigated immediately, and remedial action taken. The Site Manager will determine appropriate actions to prevent further occurrences.

7.5.3 The Site Manager will try to establish what on-site activity was going on at time the complaint was made and review the meteorological conditions at the time of the complaint. The Site Manager will then determine appropriate actions to prevent further occurrences.

7.5.4 Records of complaints and investigations will be stored by the Site Manager and made available to the council to examine on request.

7.6. Communications

7.6.1 Following investigation of the complaint, feedback will be provided to the complainant outlining the findings of the investigation, and the remedial actions taken, as well as apologising and explaining the commitment to prevent further occurrences. A record of the feedback given will be retained in the site logbook.

7.7. DMP Audit

7.7.1 The Site Manager will review the DMP once a year, in light of any complaints or issues that have been identified during the previous year. The following issues will be considered during the review:

- Effectiveness of mitigation measures employed;
- Additional mitigation measures implemented within the previous 12 months;
- Complaints received in relation to dust impacts at offsite receptors;
- Review of any dust events recorded within the previous 12 months;
- Review of the effectiveness of the visual monitoring scheme; and
- Review of the effectiveness of personnel training on dust awareness.

7.7.2 Should any control measures be shown to be failing, or should a need for further control measures be identified, new controls will be agreed and implemented in an updated DMP.

8 Residual Impacts

- 8.1.1 With the implementation of the mitigation measures outlined in the DMP, it is considered that the residual impact on dust due to the operation of the proposed development would be insignificant.

9 Conclusions

- 9.1.1 Impacts on local air quality due to emissions from vehicle trips generated by the proposed development have been screened as insignificant using EPUK/IAQM screening criteria.
- 9.1.2 The operational phase dust risk assessment has determined that, with the designed in mitigation measures, the magnitude of the dust effects would be negligible to slight adverse.
- 9.1.3 With the implementation of dust control measures and other actions set out in the DMP, it is considered that the effects of the operation of the proposed development due to dust will not be significant.
- 9.1.4 There should be no constraints to the development of the site, with regard to air quality and the dust effects on local receptors, as the proposed development is consistent with the relevant parts of:
- The NPPF;
 - The London Plan,
 - Policy BE1 and EM8 of the Hillingdon Local Plan Part 1; and
 - Policy DME1 14 and Policy DMHB 11 of the Hillingdon Local Plan Part 2.

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11 Appendices

A1	Criteria Used to Establish when an Air Quality Assessment is Likely to be Necessary	37
A2	Professional Experience.....	39

A1 Criteria Used to Establish when an Air Quality Assessment is Likely to be Necessary

A1.1.1 Stage 1 (criteria to proceed to Stage 2).

A. If any of the following apply:

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

B. Coupled with any of the following:

- the development has more than 10 parking spaces
- the development will have a centralised energy facility or other centralised combustion process

Note: Consideration should still be given to the potential impacts of neighbouring sources on the site, even if an assessment of impacts of the development on the surrounding area is screened out.

A1.1.2 The Stage 2 criteria are shown in **Table A1**.

Table A1: Indicative Criteria for Requiring an Air Quality Assessment

The development will:	Indicative Criteria to Proceed to an Air Quality Assessment ^a
1. Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans <3.5t gross vehicle weight)	A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA; - more than 500 AADT elsewhere.
2. Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors. (HDV = goods vehicles + buses >3.5t gross vehicle weight)	A change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA; - more than 100 AADT elsewhere.
3. Realign roads, i.e. changing the proximity of receptors to traffic lanes.	Where the change is 5m or more and the road is within an AQMA.
4. Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.
5. Introduce or change a bus station.	Where bus flows will change by: - more than 25 AADT within or adjacent to an AQMA; - more than 100 AADT elsewhere.

The development will:	Indicative Criteria to Proceed to an Air Quality Assessment ^a
6. Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20 m of a relevant receptor; coupled with the car park having more than 100 movements per day (total in and out).
7. Have one or more substantial combustion processes	Where the combustion unit is: - any centralised plant using bio fuel; - any combustion plant with single or combined thermal input >300kW; - a standby emergency generator associated with a centralised energy centre (if likely to be tested/used >18 hours a year).
8. Have a combustion process of any size	Where the pollutants are exhausted from a vent or stack in a location and at a height that may give rise to impacts at receptors through insufficient dispersion. This criterion is intended to address those situations where a new development may be close to other buildings that could be residential and/or which could adversely affect the plume's dispersion by way of their size and/or height.

a AADT = Annual Average Daily Traffic

A2 Professional Experience

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Bob Thomas is a Director at AQA, with over fourteen years' experience in the field of air quality management and assessment. He has carried out air quality assessments for a wide range of developments, including residential, commercial, industrial, minerals and waste developments. He has been responsible for air quality projects that include ambient air quality monitoring of nitrogen dioxide, dust and PM₁₀, the assessment of nuisance odours and dust, and the preparation of Review and Assessment reports for local authorities. He has extensive dispersion modelling experience for road traffic, energy centre and industrial sources, and has completed many stand-alone reports and chapters for inclusion within an Environmental Statement. Bob has worked with a variety of clients to provide expert air quality services and advice, including local authorities, planners, developers, architects and process operators, and has provided expert witness services at public inquiry. He is a Chartered Scientist, a Member of the Institute of Air Quality Management and a Member of the Institution of Environmental Sciences.

A full CV for Bob Thomas is available at <http://aqassessments.co.uk/about>