



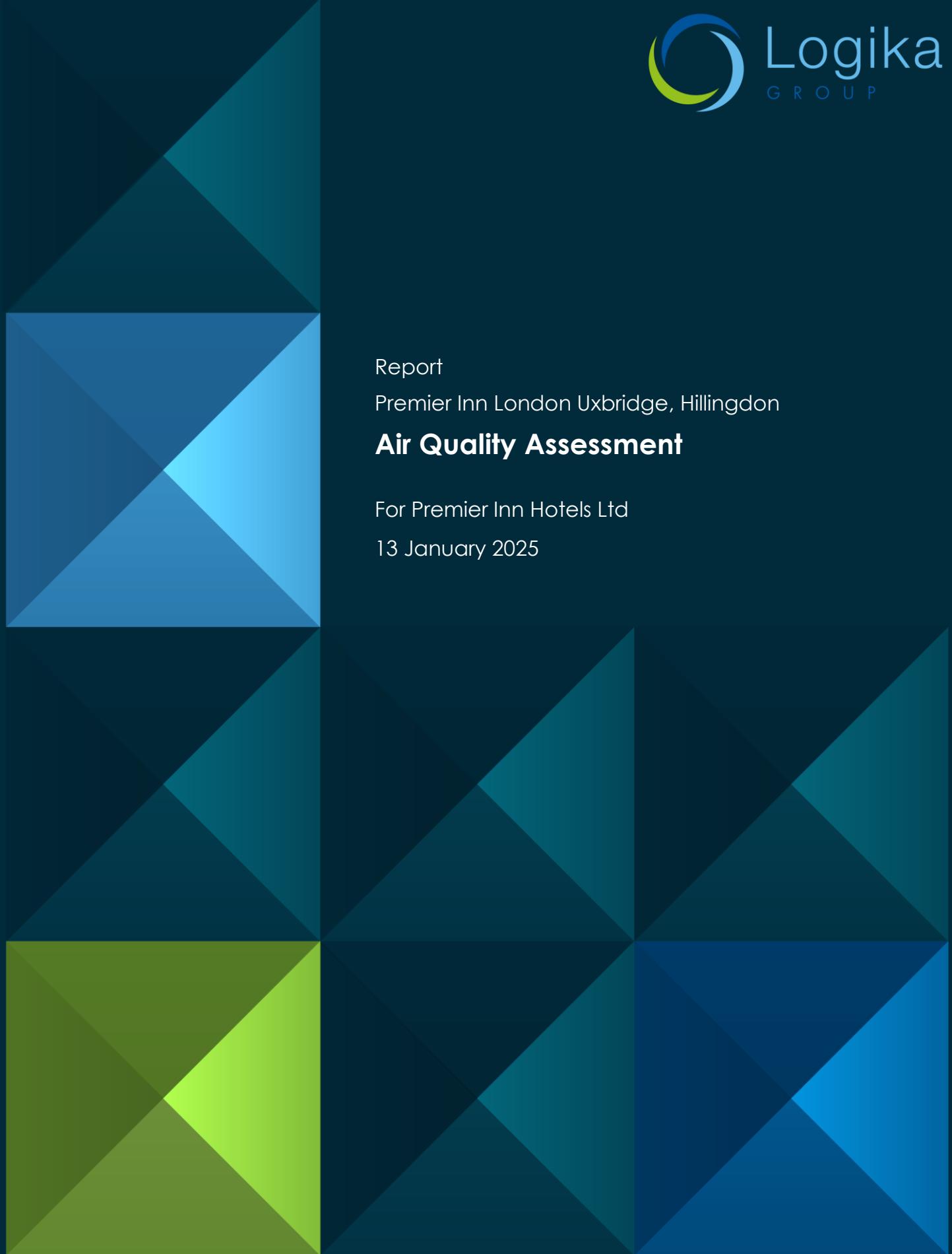
Report

Premier Inn London Uxbridge, Hillingdon

## Air Quality Assessment

For Premier Inn Hotels Ltd

13 January 2025



## Document Control

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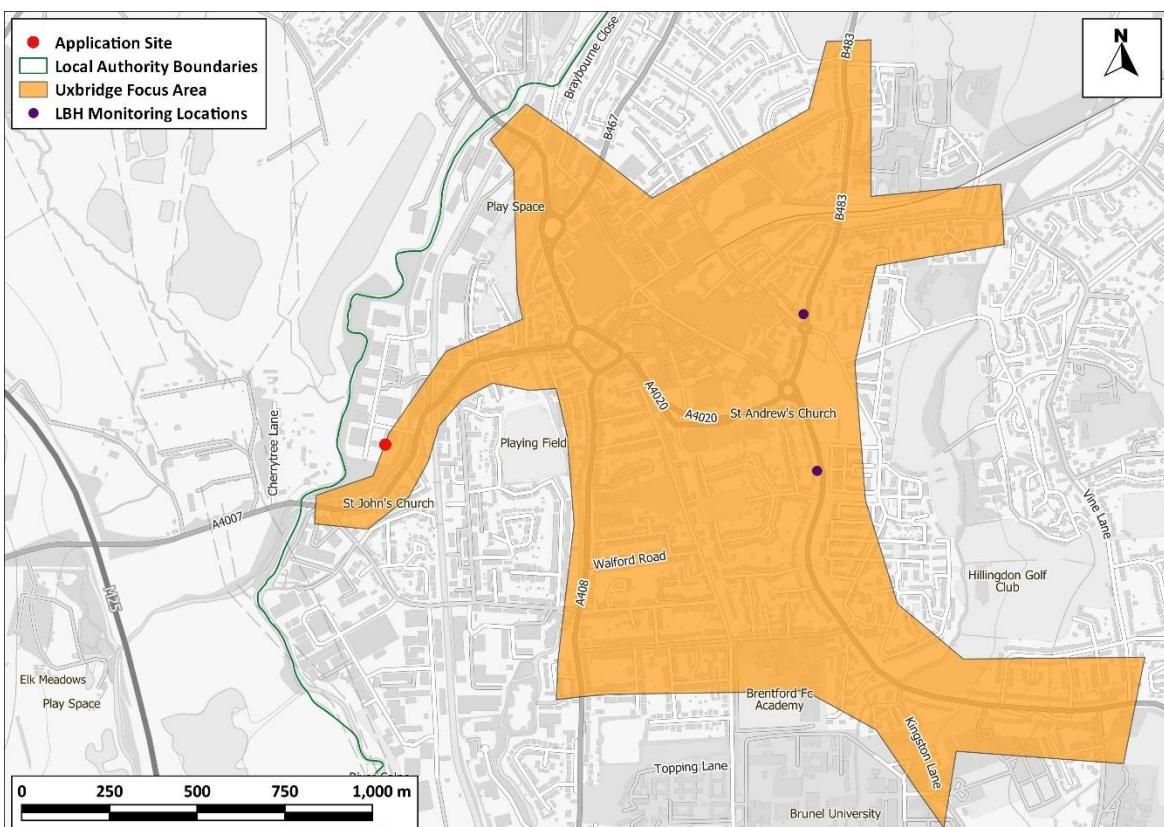
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# 1 Introduction

1.1 This report describes the potential air quality impacts associated with the proposed hotel extension at Premier Inn London Uxbridge on Riverside Way in the London Borough of Hillingdon (LBH). The proposals are for the demolition of the existing branded restaurant and construction of a new extension providing 70 additional hotel bedrooms and hotel restaurant.

1.2 The site is located within an Air Quality Management Area (AQMA) declared for exceedances of the annual mean nitrogen dioxide (NO<sub>2</sub>) objective. It is also partially located within an air quality Focus Area declared by the LBH<sup>1</sup>; these are locations with relevant exposure where there is a high risk of exceedances of the objectives.

1.3 The location and setting of the proposed development are shown in Figure 1, along with the extent of LBH's Uxbridge Focus Area and nearest monitoring sites operated by the LBH.



**Figure 1: Proposed Development Setting in the Context of Air Quality**

Additional data sourced from third parties, including public sector information licensed under the Open Government Licence v3.0.

1.4 The existing site comprises a hotel and associated Beefeater restaurant; in addition to movements associated with guests to the hotel, the Beefeater restaurant attracts external trade. The Transport Statement (RGP Consulting Engineers Limited, 2024) states that the daily vehicle trip generation associated with the existing hotel and restaurant is 426 two-way movements. The Transport Statement

<sup>1</sup> The Greater London Authority (GLA) has also designated air quality Focus Areas across London; however, the site is located over 100 m from the nearest GLA Focus Area covering Uxbridge Town Centre. Focus Areas are defined by the GLA as locations with high levels of human exposure where the annual mean nitrogen dioxide limit value is exceeded.

also states that the proposed development will generate 324 daily two-way movements. It is understood that whilst the additional rooms will generate traffic associated with guests visiting the hotel, the replacement restaurant will only be available for guests of the hotel, and thus will not attract external trips<sup>2</sup>. Further, the extension will not lead to any change to the frequency of delivery and servicing vehicles that currently access the site. Overall, therefore, there is a net reduction in daily traffic flows of 102 two-way movements as a result of the proposals. Additionally, the proposed development will utilise an all-electric building services strategy for the provision of heat and hot water. There will be no combustion plant and thus no point sources of emissions within the proposed development. As such, the development will not have a significant effect upon local air quality and impacts of the development once operational are not considered further.

- 1.5 The proposed development will, however, introduce new exposure into an area of potentially poor air quality; thus, an assessment is required to determine the air quality conditions that future users will experience.
- 1.6 The Greater London Authority's (GLA's) London Plan (GLA, 2021) requires new developments to be air quality neutral. The GLA's London Plan Guidance (LPG) (Air Quality Neutral) (GLA, 2023a) sets out guidance on how an 'air quality neutral' assessment should be undertaken. The LPG states that "*Developments, including major developments, that do not include any additional emissions sources are assumed to be Air Quality Neutral and to meet the Air Quality Neutral benchmarks...This would include, for example, developments that...do not lead to an increase in motor vehicle movements...*". As the proposed development is leading to a reduction in traffic flows and does not include any combustion sources it can be assumed to be air quality neutral, and no comparison with benchmarks is required.
- 1.7 The GLA has also released Supplementary Planning Guidance (SPG) on the Control of Dust and Emissions from Construction and Demolition (GLA, 2014). The SPG outlines a risk assessment approach for the assessment of construction dust and helps determine the mitigation measures that will need to be applied. A construction dust assessment has been undertaken, and the appropriate mitigation has been set out within this report.
- 1.8 At the time of writing, no response has been received from the LBH on the approach to the assessment. Nonetheless, this report has been prepared taking into account all relevant local and national guidance and regulations.

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<sup>2</sup> The Transport Statement is clear that additional trips to the hotel would not necessarily be 'new' to the local highway network but rather associated with guests making a pre-determined trip to the local area. The Transport Consultants advised that, based on interviews with guests at other Premier Inn hotels, over 95% of surveyed guests would have travelled to the area regardless of the provision of a Premier Inn hotel.

## 2 Policy Context

2.1 All European legislation referred to in this report is written into UK law and remains in place.

2.2 The following Policy, Legislation and Guidance has been followed when preparing this document. For details of each, please see Appendix A1.

- Air Quality Strategy 2007;
- Air Quality Strategy 2023;
- Clean Air Strategy 2019;
- Environment Act 2021;
- Environmental Improvement Plan 2023;
- National Planning Policy;
- London-Specific Policies:
  - The London Plan;
  - London Environment Strategy;
  - Mayor's Transport Strategy;
  - GLA SPG: The Control of Dust and Emissions During Construction and Demolition;
  - GLA LPG: Air Quality Neutral;
  - Air Quality Focus Areas;
- Local Transport Plan;
- Local Policies;
- Building Regulations;
- Air Quality Action Plans:
  - National Air Quality Plan; and
  - Local Air Quality Action Plan.

## 3 Pollutants of Concern

3.1 The main air pollutants of concern are nitrogen dioxide and fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). These are the pollutants most related to road traffic emissions and known to have adverse health impacts. UK-wide objectives for nitrogen dioxide and PM<sub>10</sub> were to have been achieved by 2005 and 2004, respectively, and continue to apply in all future years thereafter.

3.2 The objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed over the averaging period of the objective. The GLA explains where these objectives will apply in London (GLA, 2019). The annual mean objectives for nitrogen dioxide and PM<sub>10</sub> are considered to apply at the façades of residential properties, schools, hospitals and care homes etc., the gardens of residential properties, school playgrounds and the grounds of hospitals and care homes; they do not apply at hotels. The 24-hour mean objective for PM<sub>10</sub> is considered to apply at the same locations as the annual mean objective, as well as at hotels. The 1-hour mean objective for nitrogen dioxide applies wherever members of the public might regularly spend 1-hour or more, including outdoor eating locations and pavements of busy shopping streets.

3.3 For PM<sub>2.5</sub>, the objective set by the Department for Environment, Food, and Rural Affairs (Defra) for local authorities is to work toward reducing concentrations without setting any specific numerical value. In the absence of a numerical objective, it is convention to assess local air quality impacts against the limit value<sup>3</sup>, originally set at 25 µg/m<sup>3</sup> and currently set at 20 µg/m<sup>3</sup>.

3.4 Defra has also recently set two new targets, and two new interim targets, for PM<sub>2.5</sub> concentrations in England. One set of targets focuses on absolute concentrations. The long-term target is to achieve an annual mean PM<sub>2.5</sub> concentration of 10 µg/m<sup>3</sup> by the end of 2040 (referred to as the annual mean concentration target or AMCT), with the interim target being a value of 12 µg/m<sup>3</sup> by the start of 2028<sup>4</sup>. The second set of targets relate to reducing overall population exposure to PM<sub>2.5</sub>. By the end of 2040, overall population exposure to PM<sub>2.5</sub> should be reduced by 35% compared with 2018 levels (referred to as the population exposure reduction target or PERT), with the interim target being a reduction of 22% by the start of 2028.

3.5 In November 2024 Defra published Interim Planning Guidance on the PM<sub>2.5</sub> targets (Defra, 2024). This states that:

*"The purpose of the targets is to improve air quality by reducing levels of PM<sub>2.5</sub> across the country, therefore improving public health. While achievement of the targets will be assessed at relevant monitoring sites, the targets apply to ambient (outdoor) air throughout England. Applicants and Local Planning Authorities should therefore consider the impact of developments on air quality in all ambient air, whether a monitor is present or not."*

3.6 In order to address the new targets, it is not sufficient to assess solely whether a scheme is likely to lead to an exceedance of a legal limit. Instead, developments need to implement appropriate mitigation measures from the design stage, ensuring the minimum amount of pollution is emitted and that exposure is minimised.

<sup>3</sup> European Union (EU) Directive 2008/50/EC sets limit values for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, and is implemented in UK law through the Air Quality Standards Regulations (2010). The limit values for NO<sub>2</sub> and PM<sub>10</sub> are the same numerical concentrations as the UK objectives, but achievement of the limit values is a national obligation rather than a local one and concentrations are reported to the nearest whole number. In the UK, only monitoring and modelling carried out by UK Central Government meets the specification required to assess compliance with the limit values.

<sup>4</sup> Meaning that it will be assessed using measurements from 2027. The 2040 target will be assessed using measurements from 2040. National targets are assessed against concentrations expressed to the nearest whole number, for example a concentration of 10.4 µg/m<sup>3</sup> would not exceed the 10 µg/m<sup>3</sup> target.

3.7 Pending publication of the new guidance, Defra advises applicants to provide evidence that they have identified key sources of air pollution within the scheme and taken appropriate action to minimise emissions of PM<sub>2.5</sub> and its precursors as far as possible. More detailed assessment is expected for development closer to populations and/or having higher emissions. Defra has posed two questions to be used as prompts to support the interim assessment process:

*"How has exposure to PM<sub>2.5</sub> been considered when selecting the development site?; and*

*What actions and/or mitigations have been considered to reduce PM<sub>2.5</sub> exposure for development users and nearby receptors (houses, hospitals, schools etc.) and to reduce emissions of PM<sub>2.5</sub> and its precursors?"*

3.8 The GLA has set a target to achieve an annual mean PM<sub>2.5</sub> concentration of 10 µg/m<sup>3</sup> by 2030. This target was derived from an air quality guideline set by the World Health Organisation (WHO) in 2005. In 2021, WHO updated its guidelines, but the London Environment Strategy (GLA, 2018a) considers the 2005 guideline of 10 µg/m<sup>3</sup>. While there is no explicit requirement to assess against the GLA target of 10 µg/m<sup>3</sup>, it has nevertheless been included within this assessment.

3.9 The relevant air quality criteria for this assessment are provided in Table 1, whilst the PM<sub>2.5</sub> targets are provided in Table 2.

**Table 1: Air Quality Criteria for Nitrogen Dioxide, PM<sub>10</sub> and PM<sub>2.5</sub>**

Pollutant	Time Period	Value
Nitrogen Dioxide	1-hour Mean	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year
	Annual Mean	40 µg/m <sup>3</sup>
PM <sub>10</sub>	24-hour Mean	50 µg/m <sup>3</sup> not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m <sup>3</sup>
PM <sub>2.5</sub>	Annual Mean	20 µg/m <sup>3</sup> <sup>a</sup>
		10 µg/m <sup>3</sup> by 2030

<sup>a</sup> There is no numerical PM<sub>2.5</sub> objective for local authorities (see Paragraph 3.3). Convention is to assess against the UK limit value which is currently 20 µg/m<sup>3</sup>.

**Table 2: Environment Act PM<sub>2.5</sub> Targets**

Metric	Target	Target Year
AMCT	Interim target: 12 µg/m <sup>3</sup>	2028
	Legally binding target: 10 µg/m <sup>3</sup>	2040
PERT	Interim target: 22% reduction in exposure compared to 2018	2028
	Legally binding target: 35% reduction in exposure compared to 2018	2040

## 4 Assessment Approach

### Construction Impacts

4.1 The construction dust assessment considers the potential for impacts within 250 m of the site boundary, or within 50 m of roads used by construction vehicles. The assessment methodology follows the GLA's SPG on the Control of Dust and Emissions During Construction and Demolition (GLA, 2014), which is based on that provided by the Institute of Air Quality Management (IAQM)<sup>5</sup> (2024). This follows a sequence of steps:

- Step 1 is a basic screening stage, to determine whether the more detailed assessment provided in Step 2 is required.
- Step 2a determines the potential for dust to be raised from on-site works and by vehicles leaving the site. Step 2b defines the sensitivity of the area to any dust that may be raised. Step 2c combines the information from Steps 2a and 2b to determine the risk of dust impacts without appropriate mitigation.
- Step 3 uses this information to determine the appropriate level of mitigation required to ensure that there should be no significant impacts.

4.2 Appendix A2 explains the approach in more detail.

4.3 Guidance from the IAQM (2024) is that, with appropriate mitigation in place, the effects of construction dust will be 'not significant'. This is the latest version of the guidance upon which the assessment methodology set out in the GLA guidance (GLA, 2014) is based (the GLA guidance advises that the latest version of the IAQM guidance should always be used). The assessment thus focuses on determining the appropriate level of mitigation so as to ensure that effects will normally be 'not significant'.

### Site Suitability

4.4 The impacts of nitrogen dioxide, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations on the development have been assessed qualitatively. The assessment considers air quality conditions within the site taking account of local air quality monitoring data and proximity to local roads.

4.5 Existing sources of emissions and baseline air quality conditions within the study area have been defined using the following approaches:

- industrial sources that may affect the area have been identified using Defra's Pollutant Release and Transfer Register (Defra, 2025); and
- information on existing air quality has been obtained by collating the results of monitoring carried out by the LBH and neighbouring authority, Buckinghamshire.

4.6 There is no official guidance in the UK in relation to development control on how to assess the significance of air quality impacts. The overall significance of the air quality impacts is determined based on comparison between the likely concentrations at the development and the air quality objectives. Where concentrations remain below the objectives, it can be concluded that the overall effect will be 'not significant'. The experience of the consultants preparing the report is set out in Appendix A3.

<sup>5</sup> The IAQM is the professional body for air quality practitioners in the UK.

## 5 Construction Phase Assessment

### Construction Traffic

5.1 Typical Annual Average Daily Traffic (AADT) volumes that will be generated by the site during the construction works are not known at this stage, however, given the scale of the works it is judged unlikely that the additional heavy vehicle movements on local roads will exceed the screening criterion of 25 AADT Heavy Duty Vehicle movements recommended by Environmental Protection UK (EPUK)/IAQM guidance (Moorcroft and Barrowcliffe et al, 2017).

5.2 It is, therefore, not considered necessary to assess the impacts of traffic emissions during the construction phase and it can be concluded that construction traffic emissions associated with the proposed development will not have a significant effect on local roadside air quality.

### On-Site Exhaust Emissions

5.3 The IAQM guidance (IAQM, 2024) states:

*"Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed. For site plant and on-site traffic, consideration should be given to the number of plant/vehicles and their operating hours and locations to assess whether a significant effect is likely to occur".*

5.4 The site is relatively constrained, thus the number of NRMM able to operate at any one time will be limited. In line with the GLA's Control of Dust and Emissions During Construction and Demolition SPG, and as described in Appendix A4, NRMM are expected to comply with emissions standards. Additionally, there will be no idling when vehicles are not in use, and machinery will be located away from sensitive receptors as far as possible. It is judged that there is no risk of significant effects at existing receptors as a result of on-site machinery emissions.

### Construction Dust and Particulate Matter Emissions

5.5 The construction works will give rise to a risk of dust impacts during demolition, earthworks and construction, as well as from trackout of dust and dirt by vehicles onto the public highway. Step 1 of the assessment procedure is to screen the need for a risk assessment. There are receptors within the distances set out in the guidance (see Appendix A2), thus a detailed assessment is required. The following section sets out Step 2 of the assessment procedure.

### Potential Dust Emission Magnitude

#### Demolition

5.6 The existing single storey restaurant, which is constructed from brickwork, composite metal cladding, aluminium frames and glass will be demolished. The building has an approximate volume of 500 m<sup>3</sup>.

5.7 Based on the example definitions set out in Table A2-1 in Appendix A2, the dust emission class for demolition is considered to be *small*.

## Earthworks

5.8 The characteristics of the soil at the site have been defined using the British Geological Survey's UK Soil Observatory website (British Geological Survey, 2025), as set out in Table 3. Overall, it is considered that, when dry, this soil has the potential to be moderately dusty.

**Table 3: Summary of Soil Characteristics**

Category	Record
Soil Layer Thickness	Deep
Soil Parent Material Grain Size	Mixed (Argillaceous <sup>a</sup> – Arenaceous <sup>b</sup> )
European Soil Bureau Description	Riverine Clay and Floodplain Sands and Gravel
Soil Texture	Clay to Sandy Loam <sup>c</sup>

<sup>a</sup> grain size < 0.06 mm.  
<sup>b</sup> grain size 0.06 – 2.0 mm.  
<sup>c</sup> a loam is composed mostly of sand and silt.

5.9 The site covers approximately 7,500 m<sup>2</sup>, but it is anticipated that earthworks will only be necessary across 50% of the site, involving the removal of the foundations of the demolished restaurant building and breaking up of some of the existing car park. Dust will arise mainly from vehicles travelling over unpaved ground and from the handling of dusty materials (such as dry soil).

5.10 Based on the example definitions set out in Table A2-1 in Appendix A2, the dust emission class for earthworks is considered to be *small*.

## Construction

5.11 The proposed development involves the construction of a new three-storey hotel block, with a building volume of approximately 12,000 m<sup>3</sup>. The building will be constructed from a mixture of brick, composite metal cladding, aluminium frames and glass. Dust will arise from vehicles travelling over unpaved ground and the handling and storage of dusty materials.

5.12 Taking a conservative approach to the example definitions set out in Table A2-1 in Appendix A2, the dust emission class for construction is considered to be *medium*.

## Trackout

5.13 The number of heavy vehicles exiting the site, which may track out dust and dirt, is currently unknown, but given the access arrangements to the site it is likely that there will be fewer than 20 outward heavy vehicle movements per day.

5.14 Based on the example definitions set out in Table A2-1 in Appendix A2, the dust emission class for trackout is considered to be *small*.

5.15 Table 4 summarises the dust emission magnitude for the proposed development.

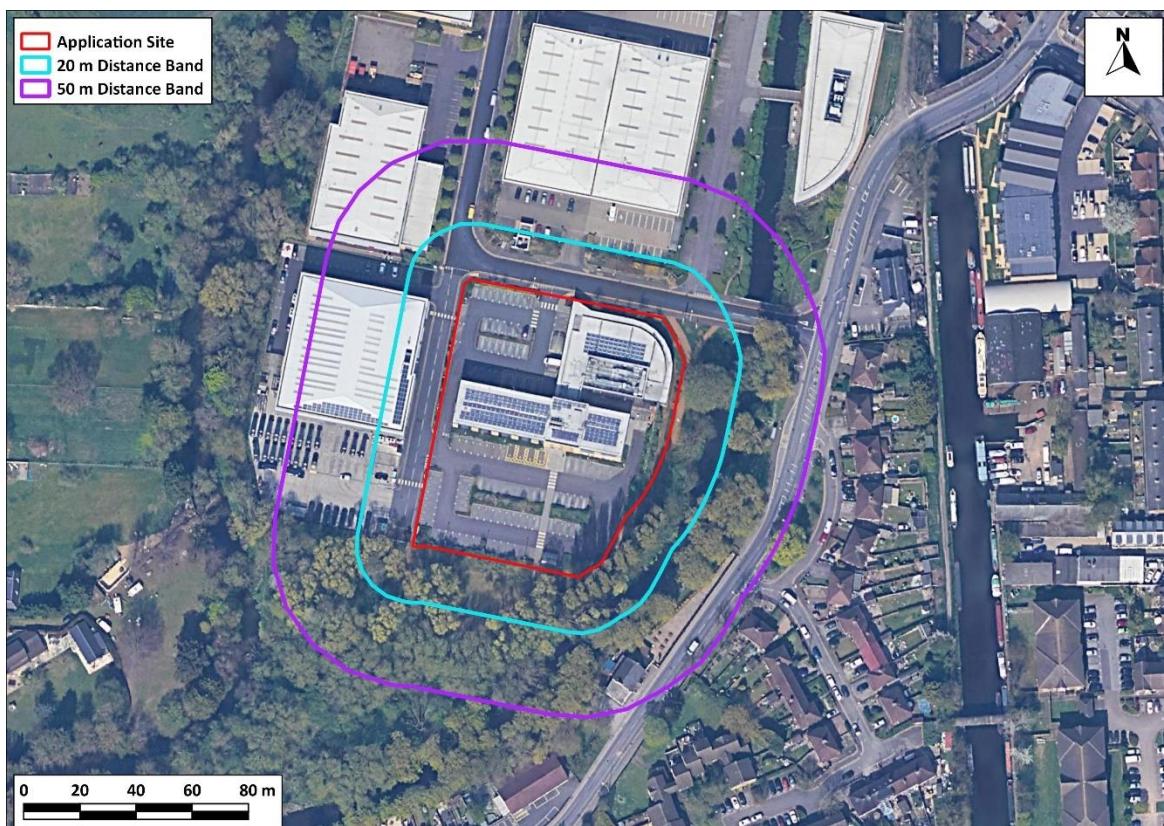
**Table 4: Summary of Dust Emission Magnitude**

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

### Sensitivity of the Area

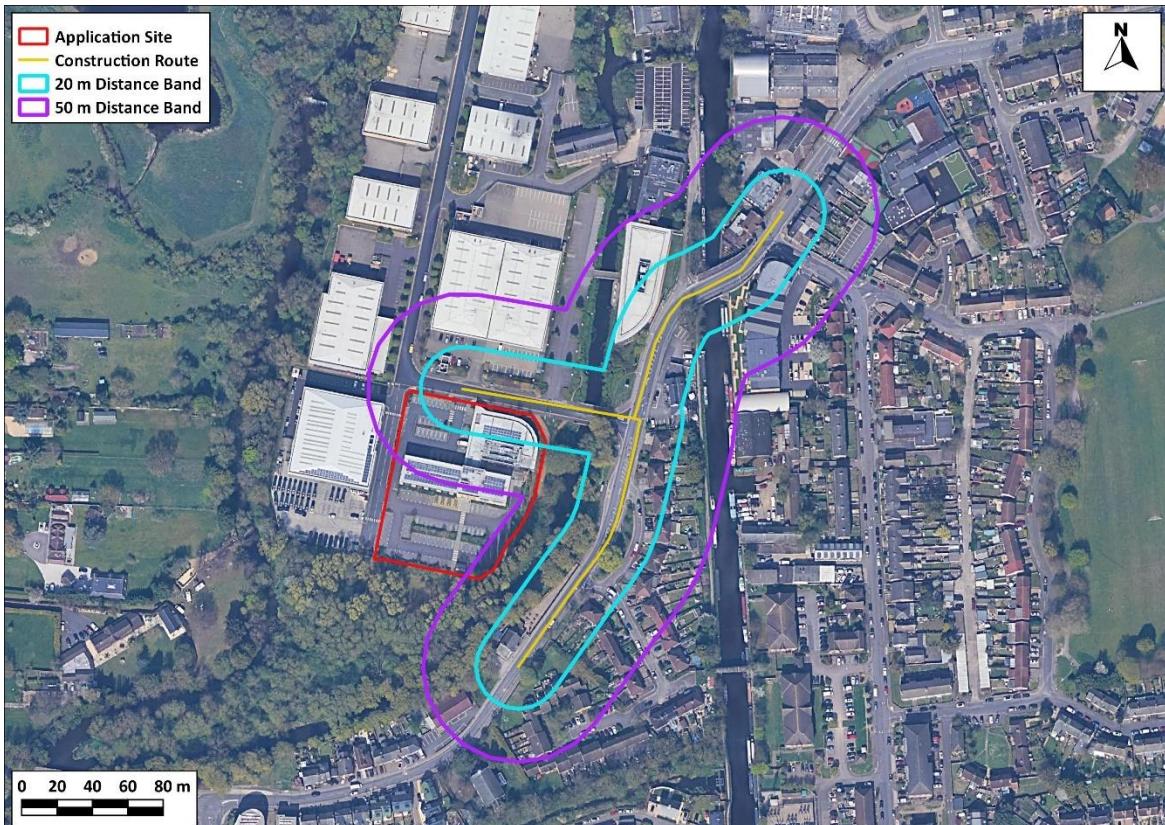
5.16 This assessment step combines the sensitivity of individual receptors to dust effects with the number of receptors in the area and their proximity to the site. It also considers additional site-specific factors such as topography and screening, and in the case of sensitivity to human health effects, baseline PM<sub>10</sub> concentrations.

5.17 The IAQM guidance, upon which the GLA's guidance is based, explains that residential properties and hotels are 'high' sensitivity receptors to dust soiling and to human health effects, while places of work are 'medium' sensitivity receptors (Table A2-2 in Appendix A2). There are two commercial buildings within 20 m of the site boundary, whilst the nearest residential property is on the other side of St John's Road beyond 50 m (see Figure 2). It is also possible that the hotel will be occupied during the construction works.

**Figure 2: 20 m and 50 m Distance Bands around Site Boundary**

Imagery ©2025 Airbus, Maxar Technologies.

5.18 The IAQM guidance (IAQM, 2024) explains that there is a risk of material being tracked 250 m from the site exit. It is assumed that vehicles will exit the site on Riverside Way prior to joining St John's Road, where they may travel either northbound or southbound. There are up to 50 residential properties and several commercial buildings within 20 m of the roads along which material could be tracked (see Figure 3).



**Figure 3: 20 m and 50 m Distance Bands around Roads Used by Construction Traffic Within 250 m of the Site Exit**

Imagery ©2025 Airbus, Maxar Technologies.

#### *Sensitivity of the Area to Effects from Dust Soiling*

5.19 Using the information set out in Paragraph 5.17 and Figure 2 alongside the matrix set out in Table A2-3 in Appendix A2, the area surrounding the onsite works is of 'medium' sensitivity to dust soiling. Using the information set out in Paragraph 5.18 and Figure 3 alongside the same matrix, the area is of 'high' sensitivity to dust soiling due to trackout.

#### *Sensitivity of the Area to any Human Health Effects*

5.20 The matrix in Table A2-4 in Appendix A2 requires information on the baseline annual mean  $PM_{10}$  concentration in the area. The GLA's London Atmospheric Emissions Inventory database (GLA, 2023b) predicts existing  $PM_{10}$  concentrations within the relevant distance bands to range between 12 and 17  $\mu g/m^3$ .

5.21 Using the information set out in Paragraph 5.17 and Figure 2 alongside the matrix in Table A2-4 in Appendix A2, the area surrounding the onsite works is of 'low' sensitivity to human health effects. Using the information set out in Paragraph 5.18 and Figure 3 alongside the same matrix, the area surrounding roads along which material may be tracked from the site is also of 'low' sensitivity.

### Sensitivity of the Area to any Ecological Effects

5.22 Whilst it is not known whether the Local Nature Reserve that wraps around the site includes dust-sensitive features, for conservatism, it is judged based on the examples in Table A2-5 in Appendix A2 that the area is of 'low' sensitivity to ecological effects.

### Summary of the Area Sensitivity

5.23 Table 5 summarises the sensitivity of the area around the proposed construction works.

**Table 5: Summary of the Area Sensitivity**

Effects Associated With:	Sensitivity of the Surrounding Area	
	On-site Works	Trackout
Dust Soiling	Medium Sensitivity	High Sensitivity
Human Health	Low Sensitivity	Low Sensitivity
Ecological	Low Sensitivity	Low Sensitivity

### Risk and Significance

5.24 The dust emission magnitudes in Table 4 have been combined with the sensitivities of the area in Table 5 using the matrix in Table A2-6 in Appendix A2, in order to assign a risk category to each activity. The resulting risk categories for the four construction activities, without mitigation, are set out in Table 6. These risk categories have been used to determine the appropriate level of mitigation as set out in Section 7 (Step 3 of the assessment procedure).

**Table 6: Summary of Risk of Impacts Without Mitigation**

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

5.25 The IAQM guidance does not provide a method for assessing the significance of effects before mitigation, and advises that pre-mitigation significance should not be determined. With appropriate mitigation in place, the IAQM guidance is clear that the residual effect will normally be 'not significant' (IAQM, 2024).

## 6 Site Suitability

### Relevant Features

6.1 The proposed development is located on the south side of Riverside Way and adjacent to the River Colne in the west of LBH, and adjacent to the boundary with the neighbouring Buckinghamshire authority. The site is part of the wider Riverside Way Business Park, which comprises a range of commercial and warehousing units to the west and north of the hotel. The nearest residential properties are on St John's Road, over 50 m from the site.

6.2 The proposed development is located within LBH's AQMA and the Uxbridge Focus Area, as highlighted in Figure 1.

### Industrial Sources

6.3 No significant industrial sources have been identified that are likely to affect the proposed development, in terms of air quality.

### Local Air Quality Monitoring

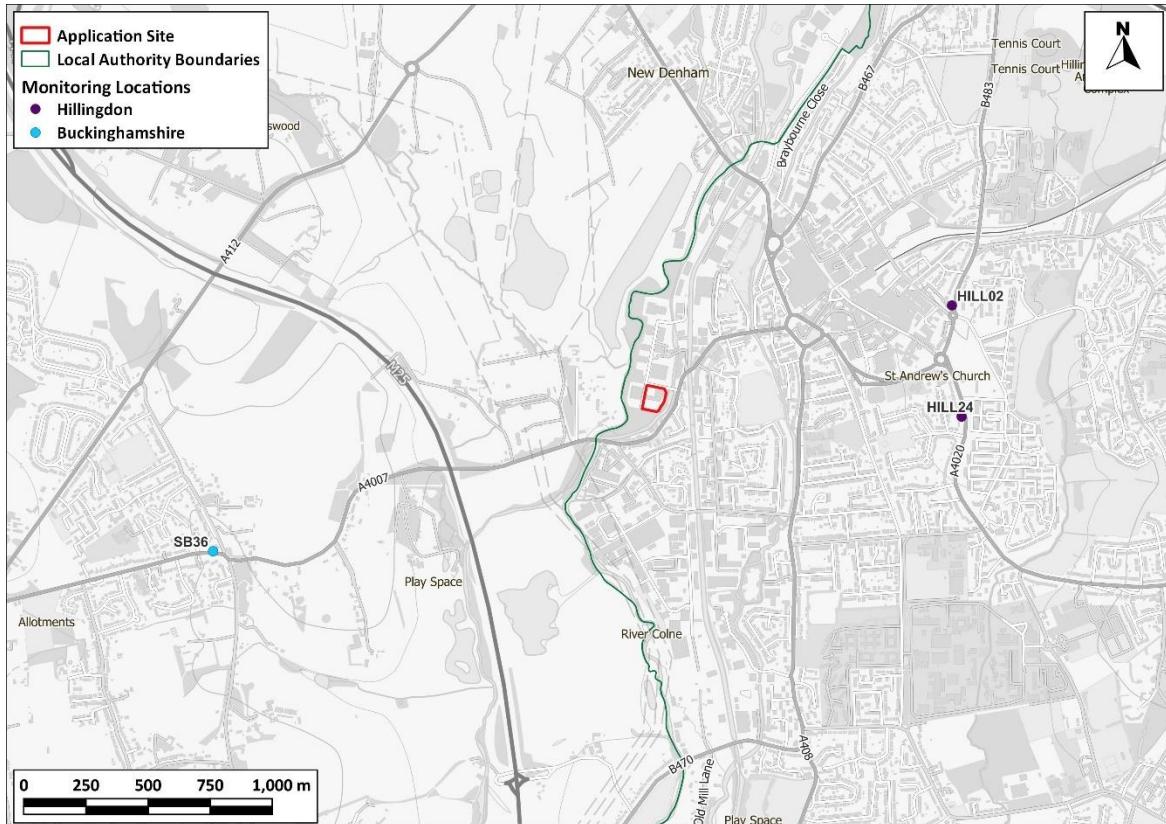
6.4 The LBH operates 12 automatic monitoring stations within its area, however these are all over 5 km from the application site. The LBH also operates a number of nitrogen dioxide monitoring sites using diffusion tubes prepared and analysed by Gradko International (using the 50% TEA in acetone method), two of which are within 2 km of the application site. Buckinghamshire Council also operates a number of monitoring sites, one of which (SB36) is located on St John's Road and within 2 km of the site.

6.5 Annual mean results for the years 2017 to 2023<sup>6</sup> are summarised in Table 7. Exceedances of the objective are shown in bold. The monitoring locations are shown in Figure 4. The monitoring data for LBH have been taken from the Air Quality Annual Status Report (ASR) for 2023 (London Borough of Hillingdon, 2024), whilst data for Buckinghamshire Council have been taken from the Council's 2024 ASR (Buckinghamshire Council, 2024) and 2022 ASR (Buckinghamshire Council, 2022).

**Table 7: Summary of Annual Mean NO<sub>2</sub> Monitoring (µg/m<sup>3</sup>)**

Site ID	Site Type	Location	2017	2018	2019	2020	2021	2022	2023
HILL02	Roadside	Uxbridge Day Nursery, Park Road	<b>40.1</b>	<b>40.7</b>	36.9	28.9	30.9	32.8	27.9
HILL24	Roadside	59 Hillingdon Road	40.0	36.9	34.7	27.6	32.0	31.1	27.0
SB36	Roadside	95 Slough Road	38.0	37.3	39.1	28.4	30.0	23.4	25.4
<b>Objective</b>			<b>40</b>						

<sup>6</sup> Whilst 2020 and 2021 results have been presented in this Section for completeness, they are not relied upon in any way as they will not be representative of 'typical' air quality conditions due to the impact of the Covid-19 pandemic on traffic volumes and thus pollutant concentrations.



**Figure 4: Monitoring Locations**

Additional data sourced from third parties, including public sector information licensed under the Open Government Licence v3.0.

6.6 Measured annual mean nitrogen dioxide concentrations exceeded the objective at Site HILL02 in 2017 and 2018; measured concentrations at the other monitoring sites have been below the objective in all years presented. Concentrations at all three sites have reduced since 2017. Since the annual mean concentrations are below  $60 \mu\text{g}/\text{m}^3$ , the 1-hour mean nitrogen dioxide objective is unlikely to have been exceeded.

6.7 No monitoring of  $\text{PM}_{10}$  or  $\text{PM}_{2.5}$  concentrations is undertaken within 5 km of the application site. Nonetheless, annual mean concentrations have been well below the objectives at all monitoring stations across the borough in the last seven years, whilst there have also been no exceedances of the 24-hour mean objective at any site. With the exception of one monitoring site in 2020, the GLA target has also been met at all automatic monitoring locations since 2017. Measured concentrations of  $\text{PM}_{10}$  have remained broadly consistent across the borough since 2017, whilst there has been a slight reduction in  $\text{PM}_{2.5}$  concentrations across the same time period.

## Impacts

6.8 The proposed development only represents relevant exposure to the 1-hour mean nitrogen dioxide and 24-hour mean  $\text{PM}_{10}$  objectives (see Paragraph 3.2). Nonetheless, consideration of the annual mean objectives has been included for completeness.

6.9 Measured annual mean nitrogen dioxide concentrations at all monitoring sites presented in Table 7 have been below the objective ( $40 \mu\text{g}/\text{m}^3$ ) since 2019. As annual mean concentrations are well below  $60 \mu\text{g}/\text{m}^3$ , an exceedance of the short-term objective is also therefore highly unlikely (Defra,

2022). Further, the application site is set back from the St John's Road by a deep (~30 m) area of vegetation, such that concentrations at the site are likely to be lower than those measured at the nearby roadside sites.

- 6.10 Additionally, based on the trends at the monitoring sites, concentrations in the local area in the proposed year of first occupancy (2026) are likely to have reduced from those measured in 2023. It is, therefore, anticipated that nitrogen dioxide concentrations at the proposed development will be below the objectives.
- 6.11 In terms of particulate matter concentrations, whilst there is no monitoring in proximity to the proposed development, based on monitoring across the borough it is reasonable to expect concentrations at the site to also be below the annual mean objectives and meet the GLA PM<sub>2.5</sub> target, whilst an exceedance of the 24-hour mean PM<sub>10</sub> objective is also considered highly unlikely.
- 6.12 It can be therefore considered that future users of the proposed development will experience acceptable air quality.

## Significance of Operational Air Quality Effects

- 6.13 The operational air quality effects without mitigation are judged to be 'not significant'. This takes account of the assessment that pollutant concentrations within the proposed development are expected to be below the objectives, thus future occupants of the proposed development will experience acceptable air quality.

## 7 Mitigation

### Good Design and Best Practice

7.1 The EPUK/IAQM guidance advises that good design and best practice measures should be considered whether or not more specific mitigation is required.

7.2 The proposed development incorporates the following good design and best practice measures:

- setting back of the extension building from St John's Road by at least 30 m and use of landscaping to act as a buffer from vehicle emissions;
- provision of a detailed travel plan setting out measures to encourage sustainable means of transport (public, cycling and walking);
- provision of pedestrian and cycle access to the development, including cycle parking; and
- use of an all-electric building services strategy to avoid the need for on-site combustion.

### Recommended Mitigation

#### Construction Impacts

7.3 Measures to mitigate dust emissions will be required during the construction phase of the development in order to minimise effects upon nearby sensitive receptors.

7.4 The site has been identified as a Medium Risk site during construction, and Low Risk during demolition, earthworks, and for trackout, as set out in Table 6. The GLA's SPG on *The Control of Dust and Emissions During Construction and Demolition* (GLA, 2014) describes measures that should be employed, as appropriate, to reduce the impacts, along with guidance on what monitoring should be undertaken during the construction phase. This reflects best practice experience and has been used, together with the professional experience of the consultant who has undertaken the dust impact assessment and the findings of the assessment, to draw up a set of measures that should be incorporated into the specification for the works. These measures are described in Appendix A4.

7.5 The mitigation measures should be written into a Dust Management Plan (DMP). The DMP may be integrated into a Code of Construction Practice or the Construction Environmental Management Plan, and may require monitoring. The GLA's guidance suggests that, for a Medium Risk site, automatic monitoring of particulate matter (as PM<sub>10</sub>) will be required. It also states that, on certain sites, it may be appropriate to determine the existing (baseline) pollution levels before work begins. However, the guidance is clear that the Local Authority should advise as to the appropriate air quality monitoring procedure and timescale on a case-by-case basis.

7.6 Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material. There should not be any excess to potentially contaminate local watercourses.

#### Road Traffic Impacts

7.7 The assessment has demonstrated that the overall air quality effect of the proposed development will be 'not significant' as it will not introduce any new exposure into areas of unacceptable air quality. It is, therefore, not considered appropriate to propose mitigation measures for this development.

## 8 Achieving Compliance with the PM<sub>2.5</sub> Targets

8.1 The monitoring data described in Section 6 demonstrate that annual mean PM<sub>2.5</sub> concentrations are currently below the AMCT, which is to be met by 2040, across the borough. There has also been a slight reduction in PM<sub>2.5</sub> concentrations across the borough over the last seven years.

8.2 Defra have set out in their Interim Planning Guidance (Defra, 2024) two questions designed to consider whether a development supports the AMCT and PERT PM<sub>2.5</sub> targets.

8.3 The first question is *“How has exposure to PM<sub>2.5</sub> been considered when selecting the development site?”*, whilst the second question is *“What actions and/or mitigations have been considered to reduce PM<sub>2.5</sub> exposure for development users and nearby receptors (houses, hospitals, schools etc.) and to reduce emissions of PM<sub>2.5</sub> and its precursors?”*. As explained in Sections 6 and 7, exposure to PM<sub>2.5</sub> and ways to minimise PM<sub>2.5</sub> emissions have been considered in the following ways:

- emissions during the construction phase will be managed through the use of appropriate mitigation measures and set out within a DMP secured by condition;
- the planting and landscaping strategy will retain the existing trees and ornamental hedgerow, and introduce shrubs, neutral grassland, individual trees, native hedgerow and a green wall. These will act as a buffer between the proposed development and the nearby road network;
- the operators of the proposed development (Whitbread) have a number of corporate initiatives such as recruitment through local job centres, such that it is reasonable to expect that staff will use sustainable modes of transport;
- information on sustainable transport modes is disseminated to guests via the hotel's website and phone application to enable guests to plan journeys, and also displayed on an information board in the hotel reception;
- the nominated Travel Plan Coordinator will plan a series of events over the course of a year for employees to encourage the use of sustainable transport (such as 'Walk to Work' and 'Commute Smart' weeks);
- employees are provided with discounts in local stores to purchase bicycles and cycle equipment;
- adequate shower, changing facilities and storage lockers are available for staff commuting by active travel modes;
- guests are allowed to store bicycles in bedrooms, maximising the number of available storage points, whilst maintenance tools are available from reception;
- Amazon have the option to provide 'Amazon Lockers' within the hotel which are accessible to all, including the local community, which can serve to reduce missed deliveries;
- catering for guests is available on site, reducing the need to travel off site; and
- there are no combustion sources for heat, hot water and electricity.

8.4 It is considered that the development complies with the requirements to deliver achievement of the AMCT and PERT by 2040 as appropriate action has been taken to minimise emissions of PM<sub>2.5</sub> and its precursors as far as is reasonably practicable.

## 9 Conclusions

9.1 The assessment has considered the impacts of the proposed development on local air quality in terms of dust and particulate matter emissions during construction. It has also identified the air quality conditions that future occupants will experience, and whether the proposed development is 'air quality neutral'.

### Construction Impacts

9.2 The construction works have the potential to create dust. During construction it will therefore be necessary to apply a package of mitigation measures to minimise dust emissions. Appropriate measures have been recommended and, with these measures in place, it is expected that any residual effects will be 'not significant'.

### Operational Impacts

9.3 Air quality conditions for future occupants of the proposed development have been shown to be acceptable, with concentrations below the air quality objectives throughout the site. PM<sub>2.5</sub> concentrations will also meet the GLA target.

9.4 The development will have no adverse effects on local air quality and does not introduce new exposure within an area of poor air quality, thus no mitigation has been proposed for the operational impacts.

9.5 The overall operational air quality effects of the proposed development are judged to be 'not significant'.

### Air Quality Neutral

9.6 It has been demonstrated that the proposed development is 'air quality neutral', as required by the London Plan.

### Policy Implications

9.7 Taking into account these conclusions, it is judged that the proposed development is consistent with Paragraph 198 of the NPPF, being appropriate for its location in terms of the air quality conditions for future occupants. It is also consistent with Paragraph 199, as it will not affect compliance with relevant limit values or national objectives.

9.8 It is considered that the development complies with the requirements to deliver achievement of the AMCT and PERT by 2040 as appropriate action has been taken to minimise emissions of PM<sub>2.5</sub> and its precursors as far as is reasonably practicable.

9.9 The proposed development is also compliant with Policy SI 1 of the London Plan in the following ways:

- it will not lead to further deterioration of existing poor air quality;
- it will not cause or extend any exceedances of legal air quality limits;
- it will not create new exposure to poor air quality; and
- it is 'air quality neutral'.

9.10 The proposed development is also consistent with policies set out in Parts 1 and 2 of LBH's Local Plan since:

- it meets the air quality neutral standard (EM8 and DMEI 14);
- future occupants will experience acceptable air quality conditions, and the development will not lead to a deterioration in air quality conditions or lead to adverse impacts (EM8, DMT 1 and DMT 2);
- the development leads to a reduction in traffic flows and thus emissions compared to the existing use of the site (DMEI 14);
- a suite of incentives and measures are included within the Travel Plan and embedded into the proposals which will promote sustainable transport across staff and guests and minimise the development's emission footprint (EM8 and DMEI 14); and
- soft landscaping and living walls are included as part of the proposals (EM8).

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## 11 Glossary

AADT	Annual Average Daily Traffic
AMCT	Annual Mean Concentration Target (for PM <sub>2.5</sub> )
AQAL	Air Quality Assessment Level
AQC	Air Quality Consultants
AQMA	Air Quality Management Area
CAZ	Clean Air Zone
CEMP	Construction Environmental Management Plan
Defra	Department for Environment, Food and Rural Affairs
DMP	Dust Management Plan
EPUK	Environmental Protection UK
EU	European Union
EV	Electric Vehicle
Exceedance	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
Focus Area	Location that not only exceeds the annual mean limit value for nitrogen dioxide but also has a high level of human exposure
GLA	Greater London Authority
HDV	Heavy Duty Vehicles (> 3.5 tonnes)
HMSO	His Majesty's Stationery Office
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LBH	London Borough of Hillingdon
LEZ	Low Emission Zone
µg/m <sup>3</sup>	Microgrammes per cubic metre
NO	Nitric oxide
NO <sub>2</sub>	Nitrogen dioxide
NOx	Nitrogen oxides (taken to be NO <sub>2</sub> + NO)
NPPF	National Planning Policy Framework
NRMM	Non-road Mobile Machinery

OEP	Office for Environmental Protection
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
OLEV	Office for Low Emission Vehicles
PERT	Population Exposure Reduction Target (for PM <sub>2.5</sub> )
PM <sub>10</sub>	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
PM <sub>2.5</sub>	Small airborne particles less than 2.5 micrometres in aerodynamic diameter
PPG	Planning Practice Guidance
SPG	Supplementary Planning Guidance
SPD	Supplementary Planning Document
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
TEA	Triethanolamine – used to absorb nitrogen dioxide
ULEZ	Ultra Low Emission Zone
WHO	World Health Organisation
ZEC	Zero Emission Capable

## 12 Appendices

## A1 Policy

### Air Quality Strategy 2007

A1.1 The Air Quality Strategy (Defra, 2007) published by Defra and Devolved Administrations, provides the policy framework for air quality management and assessment in the UK. It provides air quality standards and objectives for key air pollutants, which are designed to protect human health and the environment. It also sets out how the different sectors: industry, transport and local government, can contribute to achieving the air quality objectives.

### Air Quality Strategy 2023

A1.2 The Air Quality Strategy: Framework for Local Authority Delivery 2023 (Defra, 2023a) sets out the strategic air quality framework for local authorities and other Air Quality Partners in England. It sets out their powers and responsibilities, and actions the Government expects them to take. It does not replace other air quality guidance documents relevant to local authorities.

### Clean Air Strategy 2019

A1.3 The Clean Air Strategy (Defra, 2019) sets out a wide range of actions by which the UK Government will seek to reduce pollutant emissions and improve air quality. Actions are targeted at four main sources of emissions: Transport, Domestic, Farming and Industry. At this stage, there is no straightforward way to take account of the expected future benefits to air quality within this assessment.

### Environment Act 2021

A1.4 The UK's new legal framework for protection of the natural environment, the Environment Act (2021) passed into UK law in November 2021. The Act gives the Government the power to set long-term, legally binding environmental targets. It also establishes an Office for Environmental Protection (OEP), responsible for holding the government to account and ensuring compliance with these targets.

A1.5 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (SI 2023 No. 96) sets two new targets for future concentrations of PM<sub>2.5</sub>. These targets are described in Paragraph 3.4.

### Environmental Improvement Plan 2023

A1.6 Defra published its 25 Year Environment Plan in 2018 (Defra, 2018a). The Environment Act (2021) requires Defra to review this Plan at least every five years. The Environmental Improvement Plan 2023 (Defra, 2023b) is the first revision. This outlines the progress made since 2018 and adds detail to the goals defined in the 2018 Plan, including that of achieving clean air.

A1.7 The Environmental Improvement Plan 2023 sets out the new air quality targets which have been set for concentrations of PM<sub>2.5</sub>. These targets, which are described in more detail in Paragraph 3.4, include the long-term targets in the Statutory Instrument described in Paragraph A1.5, and interim targets to be achieved by 2028.

A1.8 The 2023 Plan outlines the role of local authorities in helping it meet both its targets and existing commitments. It also outlines the respective roles of industry, agricultural sectors, and the Department for Transport in providing the coordinated action required to meet both its new, and pre-existing targets and commitments.

## Planning Policy

### National Policies

A1.9 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities & Local Government, 2024) sets out planning policy for England. It states that the purpose of the planning system is to contribute to the achievement of sustainable development, and that the planning system has three overarching objectives, one of which (Paragraph 8c) is 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".*

A1.10 To prevent unacceptable risks from air pollution, Paragraph 187 of the NPPF states that:

*"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, taking into account relevant information such as river basin management plans".*

A1.11 Paragraph 198 states:

*"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".*

A1.12 More specifically, on air quality, Paragraph 199 makes clear 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.".*

A1.13 The NPPF is supported by Planning Practice Guidance (PPG) (Ministry of Housing, Communities & Local Government, 2019), which includes guiding principles on how planning can take account of the impacts of new development on air quality.

A1.14 The PPG sets out the information that may be required in an air quality assessment, making clear 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".*

## London-Specific Policies

### The London Plan

A1.15 The London Plan (GLA, 2021) sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years. The key policy relating to air quality is Policy SI 1 on Improving air quality, Part B1 of which sets out three key requirements for developments:

"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".

A1.16 The Policy then details how developments should meet these requirements, stating:

"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".

A1.17 Regarding construction and demolition impacts, Part D of Policy SI 1 of the London Plan states:

"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".

A1.18 Part E of Policy SI 1 states the following regarding mitigation and offsetting of emissions:

"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".

### London Environment Strategy

A1.19 The London Environment Strategy was published in May 2018 (GLA, 2018a). The strategy considers air quality in Chapter 4; the Mayor's main objective is to create a "zero emission London by 2050". Policy 4.2.1 aims to "reduce emissions from London's road transport network by phasing out fossil fuelled vehicles, prioritising action on diesel, and enabling Londoners to switch to more sustainable forms of transport". The strategy sets a target to achieve, by 2030, the guideline value for PM<sub>2.5</sub> which was set by the WHO in 2005. An implementation plan for the strategy has also been published which set out what the Mayor would do between 2018 and 2023 to help achieve the ambitions in the strategy.

### Mayor's Transport Strategy

A1.20 The Mayor's Transport Strategy (GLA, 2018b) sets out the Mayor's policies and proposals to reshape transport in London over the next two decades. The Strategy focuses on reducing car dependency

and increasing active sustainable travel, with the aim of improving air quality and creating healthier streets. It notes that development proposals should “be designed so that walking and cycling are the most appealing choices for getting around locally”.

### GLA SPG: The Control of Dust and Emissions During Construction and Demolition

A1.21 The GLA's SPG on The Control of Dust and Emissions During Construction and Demolition (GLA, 2014) outlines a risk assessment based approach to considering the potential for dust generation from a construction site, and sets out what mitigation measures should be implemented to minimise the risk of construction dust impacts, dependent on the outcomes of the risk assessment. This guidance is largely based on the Institute of Air Quality Management's (IAQM's) guidance (IAQM, 2024), and it states that “*the latest version of the IAQM Guidance should be used*”.

### GLA LPG: Air Quality Neutral

A1.22 The GLA's Air Quality Neutral LPG outlines the assessment approach for determining whether a development is Air Quality Neutral (GLA, 2023a). The guidance sets out benchmarks for the maximum allowable emissions of NOx and particulate matter based on the size and use class of the proposed development. To determine whether the development is Air Quality Neutral, the building and transport emissions from the proposed development are compared to these benchmarks.

### Air Quality Focus Areas

A1.23 The GLA has identified 160 air quality Focus Areas in London. These are locations that not only exceed the annual mean limit value for nitrogen dioxide, but also have high levels of human exposure. They do not represent an exhaustive list of London's air quality hotspot locations, but locations where the GLA believes the problem to be most acute. They are also areas where the GLA considers there to be the most potential for air quality improvements and are, therefore, where the GLA and Transport for London will focus actions to improve air quality. The proposed development is not located within any of the GLA's air quality Focus Areas.

### Local Policies

A1.24 The Local Plan Part 1: Strategic Policies (London Borough of Hillingdon, 2012) was adopted by the LBH in November 2012 and provides a framework for development in the Borough up to 2026. The Plan includes two Strategic Objectives (SO) related to air quality:

- SO10: “Improve and protect air... quality...”; and
- SO11: “...minimise emissions of... local air quality pollutants from new development and transport”.

A1.25 The main Policy of relevance to air quality is Policy EM8 'Land, Water, Air and Noise', which 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 Action 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".

A1.26 The LBH adopted the Local Plan Part 2: Development Management Policies (London Borough of Hillingdon, 2020) in January 2020, which delivers the detail of the strategic policies set out in the Local Plan Part 1: Strategic Policies. Together the documents form a comprehensive development strategy for the Borough up to 2026. The Local Plan Part 2 includes the following policies that relate to air quality and the proposed development:

- Policy DME1 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.*

*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".*

- Policy DMT 1 'Managing Transport Impacts' states that "...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 'Highways Impacts' states that "Development proposals must ensure that... they do not contribute to the deterioration of air quality...".

A1.27 The LBH has also adopted a Supplementary Planning Document (SPD) on Planning Obligations (London Borough of Hillingdon, 2014), which states that:

*"Obligations may be sought to ensure no detrimental impacts on air quality and/or to ensure compliance with the objective of the AQMA. The following circumstances may establish a requirement for planning obligations:*

- As a recommendation of an air quality assessment;
- To mitigate the impacts from emissions from new development where these cannot be resolved through other means such as planning conditions, travel plans or statutory licenses;
- To mitigate impacts on new development where floor space is to be occupied for significant parts of the day, such as residential, where located in an area of poor air quality; and

- To mitigate air quality impacts during the construction phase where these cannot be controlled through conditions or other statutory licenses.”

A1.28 The LBH has defined its own air quality Focus Areas which complement the GLA ones. The proposed development lies partially within the Uxbridge Focus Area.

## Building Standards

A1.29 Part F(1) of Schedule 1 of the Building Regulations 2010 as amended June 2022 (Department for Levelling Up, Housing and Communities (DLUHC), 2022) places a duty on building owners, or those responsible for relevant building work<sup>7</sup>, to ensure adequate ventilation is provided to building occupants.

A1.30 Approved Document F (HM Government, 2021), which accompanies the Building Regulations, explains that care should be taken to minimise entry of external air pollutants. Specific steps should be taken to manage ventilation intakes where the building is near to a significant source of emissions, or if local ambient concentrations exceed values set in the Air Quality Standards Regulations 2010. These steps include maximising the distance between emission source and air intake, considering likely dispersion patterns, and considering the timing of pollution releases when designing the ventilation system.

A1.31 Compliance with the Building Regulations is not required for planning approval, but it is assumed that the Regulations will be complied with in the completed development.

## Air Quality Action Plans

### National Air Quality Plan

A1.32 Defra has produced an Air Quality Plan to tackle roadside nitrogen dioxide concentrations in the UK (Defra, 2017); a supplement to the 2017 Plan (Defra, 2018b) was published in October 2018 and sets out the steps Government is taking in relation to a further 33 local authorities where shorter-term exceedances of the limit value were identified. This assessment has principally been carried out in relation to the air quality objectives, rather than the limit values that are the focus of the Air Quality Plan.

### Local Air Quality Action Plan

A1.33 The LBH has declared an AQMA for nitrogen dioxide covering the south of the borough, defined by the A40 corridor from the western borough boundary, east to the intersection with the Yeading Brook and north until its intersection with the Chiltern-Marylebone railway line. The Council has developed an Air Quality Action Plan (London Borough of Hillingdon, 2019). This plan identifies the Council's objectives to:

“a) improve the areas of poorer air quality as soon as possible;

b) to continue to improve air quality across the borough and reduce public exposure to air pollution, especially for vulnerable groups within our communities such as the young, the old and those already suffering with associated respiratory illnesses”.

A1.34 With these objectives in mind, the LBH will prioritise the following actions:

- “Lead by example;

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<sup>7</sup> Building work is a legal term for work covered by the Building Regulations. With limited exemptions, the Regulations apply to all significant building work, including erecting or extending a building.

- *Prioritise reducing public exposure and improving air quality around schools;*
- *Prioritise the implementation of improvement strategies in the AQ Focus Areas;*
- *Ensure the integration of the Healthy Streets approach in relevant council work programmes;*
- *Ensure the planning system supports the achievement of air quality improvements in relation to new developments;*
- *Raise awareness via targeted campaigns; and*
- *Promote the use of greener walking and cycling routes to help the delivery of the Council's transport objective of an increased mode share for walking and cycling; and Work with external stakeholders."*

## A2 Construction Dust Assessment Procedure

A2.1 The criteria developed by IAQM (2024), upon which the GLA's guidance is based, divide the activities on construction sites into four types to reflect their different potential impacts. These are:

- demolition;
- earthworks;
- construction; and
- trackout.

A2.2 The assessment procedure includes the four steps summarised below:

### STEP 1: Screen the Need for a Detailed Assessment

A2.3 An assessment is required where there is a human receptor within 250 m of the boundary of the site and/or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s), or where there is an ecological receptor within 50 m of the boundary of the site and/or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s).

A2.4 Where the need for a more detailed assessment is screened out, it can be concluded that the level of risk is negligible and that any effects will be 'not significant'. No mitigation measures beyond those required by legislation will be required.

### STEP 2: Assess the Risk of Dust Impacts

A2.5 A site is allocated to a risk category based on two factors:

- the scale and nature of the works, which determines the potential dust emission magnitude (Step 2A); and
- the sensitivity of the area to dust effects (Step 2B).

A2.6 These two factors are combined in Step 2C, which is to determine the risk of dust impacts with no mitigation applied. The risk categories assigned to the site may be different for each of the four potential sources of dust (demolition, earthworks, construction and trackout).

### Step 2A – Define the Potential Dust Emission Magnitude

A2.7 Dust emission magnitude is defined as either 'Small', 'Medium', or 'Large'. The IAQM guidance explains that this classification should be based on professional judgement, but provides the examples in Table A2-1.

**Table A2-1: Examples of How the Dust Emission Magnitude Class May be Defined**

Class	Examples
<b>Demolition</b>	
Large	Total building volume >75,000 m <sup>3</sup> , potentially dusty construction material (e.g. concrete), on site crushing and screening, demolition activities >12 m above ground level

Class	Examples
Medium	Total building volume 12,000 m <sup>3</sup> – 75,000 m <sup>3</sup> , potentially dusty construction material, demolition activities 6-12 m above ground level
Small	Total building volume <12,000 m <sup>3</sup> , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <6 m above ground, demolition during wetter months
<b>Earthworks</b>	
Large	Total site area >110,000 m <sup>2</sup> , potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >6 m in height.
Medium	Total site area 18,000 m <sup>2</sup> – 110,000 m <sup>2</sup> , moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 3 m – 6 m in height.
Small	Total site area <18,000 m <sup>2</sup> , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <3 m in height.
<b>Construction</b>	
Large	Total building volume >75,000 m <sup>3</sup> , on site concrete batching; sandblasting
Medium	Total building volume 12,000 m <sup>3</sup> – 75,000 m <sup>3</sup> , potentially dusty construction material (e.g. concrete), on site concrete batching
Small	Total building volume <12,000 m <sup>3</sup> , construction material with low potential for dust release (e.g. metal cladding or timber)
<b>Trackout <sup>a</sup></b>	
Large	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100 m
Medium	20-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m
Small	<20 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50 m
a These numbers are for vehicles that leave the site after moving over unpaved ground.	

## Step 2B – Define the Sensitivity of the Area

A2.8 The sensitivity of the area is defined taking account of a number of factors:

- the specific sensitivities of receptors in the area;
- the proximity and number of those receptors;
- in the case of PM<sub>10</sub>, the local background concentration; and
- site-specific factors, such as whether there are natural shelters to reduce the risk of wind-blown dust.

A2.9 The first requirement is to determine the specific sensitivities of local receptors. The IAQM guidance recommends that this should be based on professional judgment, taking account of the principles in

Table A2-2. These receptor sensitivities are then used in the matrices set out in Table A2-3, Table A2-4 and Table A2-5 to determine the sensitivity of the area. Finally, the sensitivity of the area is considered in relation to any other site-specific factors, such as the presence of natural shelters etc., and any required adjustments to the defined sensitivities are made.

## Step 2C – Define the Risk of Impacts

A2.10 The dust emission magnitude determined at Step 2A is combined with the sensitivity of the area determined at Step 2B to determine the risk of impacts with no mitigation applied. The IAQM guidance provides the matrix in Table A2-6 as a method of assigning the level of risk for each activity.

## STEP 3: Determine Site-specific Mitigation Requirements

A2.11 The IAQM guidance provides a suite of recommended and desirable mitigation measures which are organised according to whether the outcome of Step 2 indicates a low, medium, or high risk. The list provided in the IAQM guidance has been used as the basis for the requirements set out in Appendix A4.

## STEP 4: Determine Significant Effects

A2.12 The IAQM guidance does not provide a method for assessing the significance of effects before mitigation, and advises that pre-mitigation significance should not be determined. With appropriate mitigation in place, the IAQM guidance is clear that the residual effect will normally be 'not significant'.

A2.13 The IAQM guidance recognises that, even with a rigorous dust management plan in place, it is not possible to guarantee that the dust mitigation measures will be effective all of the time, for instance under adverse weather conditions. The local community may therefore experience occasional, short-term dust annoyance. The scale of this would not normally be considered sufficient to change the conclusion that the effects will be 'not significant'.

**Table A2-2: Principles to be Used When Defining Receptor Sensitivities**

Class	Principles	Examples
<b>Sensitivities of People to Dust Soiling Effects</b>		
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 there is property that 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 horticulture), footpaths, short term car parks and roads
<b>Sensitivities of People to the Health Effects of PM<sub>10</sub></b>		
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.	may include office and shop workers, but will generally not include workers occupationally exposed to PM <sub>10</sub>
Low	locations where human exposure is transient	public footpaths, playing fields, parks and shopping streets
<b>Sensitivities of Receptors to Ecological Effects</b>		
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 with dust sensitive features

Class	Principles	Examples
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 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

Table A2-3: Sensitivity of the Area to Dust Soiling Effects on People and Property

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

Table A2-4: Sensitivity of the Area to Human Health Effects <sup>8</sup>

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

<sup>8</sup> For demolition, earthworks and construction, distances are taken either from the dust source or from the boundary of the site. For trackout, distances are measured from the sides of roads used by construction traffic. Without mitigation, trackout may occur from roads up to 250 m, as measured from the site exit. The impact declines with distance from the site, and it is only necessary to consider trackout impacts up to 50 m from the edge of the road.

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

Table A2-5: Sensitivity of the Area to Ecological Effects <sup>8</sup>

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

Table A2-6: Defining the Risk of Dust Impacts

Sensitivity of the Area	Dust Emission Magnitude		
	Large	Medium	Small
<b>Demolition</b>			
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
<b>Earthworks</b>			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
<b>Construction</b>			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

<u>Sensitivity of the Area</u>	Dust Emission Magnitude		
	Large	Medium	Small
Trackout			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

## A3 Professional Experience

### Penny Wilson, BSc (Hons) CSci MIEnvSc MIAQM

Ms Wilson is a Technical Director with AQC, with more than 20 years' relevant experience in the field of air quality. She has been responsible for numerous assessments for a range of infrastructure developments including power stations, road schemes, ports, airports and residential/commercial developments. The assessments have covered operational and construction impacts, including dust and odour nuisance. She also provides services to local authorities in support of their LAQM duties, including the preparation of Review and Assessment and Action Plan reports, as well as audits of Air Quality Assessments submitted with planning and DCO applications. She has provided expert evidence to a number of Public Inquiries and civil court, and is a Member of the Institute of Air Quality Management and a Chartered Scientist.

### Dr Frances Marshall, MSci PhD MIEnvSc MIAQM

Dr Marshall is a Principal Consultant with AQC with ten years' relevant experience. Prior to joining AQC, she spent four years carrying out postgraduate research into atmospheric aerosols at the University of Bristol. Dr Marshall has experience preparing air quality assessments for a range of projects, including residential and commercial developments, road traffic schemes, energy centres, energy from waste schemes and numerous power generation schemes. She has experience in producing air quality assessments for EIA schemes, and has also assessed the impacts of Local Plans on designated ecological areas, prepared Annual Status Reports for Local Authorities, and undertaken diffusion tube monitoring studies. She is a Member of both the Institute of Air Quality Management and the Institution of Environmental Sciences.

## A4 Construction Mitigation

A4.1 Table A4-1 presents a set of best-practice measures from the GLA guidance (GLA, 2014) that should be incorporated into the specification for the works. These measures should be written into a Dust Management Plan. Some of the measures may only be necessary during specific phases of work, or during activities with a high potential to produce dust, and the list should be refined and expanded upon in liaison with the construction contractor when producing the Dust Management Plan.

**Table A4-1: Best-Practice Mitigation Measures Recommended for the Works**

Measure	Desirable	Highly Recommended
<b>Site Management</b>		
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site		✓
Develop a Dust Management Plan (DMP)		✓
Display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary		✓
Display the head or regional office contact information		✓
Record and respond to all dust and air quality pollutant emissions complaints		✓
Make a complaints log available to the local authority when asked		✓
Carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and make an inspection log available to the Local Authority when asked		✓
Increase the frequency of site inspections by those accountable for dust and air quality pollutant emissions issues when activities with a high potential to produce dust and emissions are being carried out and during prolonged dry or windy conditions		✓
Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and ensure that the action taken to resolve the situation is recorded in the log book		✓
<b>Preparing and Maintaining the Site</b>		
Plan the site layout so that machinery and dust-causing activities are located away from receptors, as far as is possible		✓
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site		✓

Measure	Desirable	Highly Recommended
Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period		✓
Install green walls, screens or other green infrastructure to minimise the impact of dust and pollution	✓	
Avoid site runoff of water or mud		✓
Keep site fencing, barriers and scaffolding clean using wet methods		✓
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below		✓
Cover, seed, or fence stockpiles to prevent wind whipping		✓
Carry out regular dust soiling checks of buildings within 100 m of site boundary and provide cleaning if necessary	✓	
Put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly		✓
Agree monitoring locations with the Local Authority		✓
Where possible, commence baseline monitoring at least three months before work begins		✓
<b>Operating Vehicle/Machinery and Sustainable Travel</b>		
Ensure all on-road vehicles comply with the requirements of the London LEZ and ULEZ		✓
Ensure all Non-road Mobile Machinery (NRMM) comply with London's NRMM emission standards. NRMM used on any site within Greater London is required to meet Stage IV of EU Directive 97/68/EC (The European Parliament and the Council of the European Union, 1997) and its subsequent amendments as a minimum. From January 2030 the Stage V standard will apply, and from January 2040 only zero emission machinery will be allowed.		✓
Ensure all vehicles switch off engines when stationary – no idling vehicles		✓
Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery-powered equipment where practicable		✓
Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un-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	✓	

Measure	Desirable	Highly Recommended
nominated undertaker and with the agreement of the local authority, where appropriate)		
Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials		✓
Implement a Travel Plan that supports and encourages sustainable staff travel (public transport, cycling, walking, and car-sharing)		✓
<b>Operations</b>		
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems		✓
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate		✓
Use enclosed chutes, conveyors and covered skips		✓
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate		✓
Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods		✓
<b>Waste Management</b>		
Reuse and recycle waste to reduce dust from waste materials		✓
Avoid bonfires and burning of waste materials		✓
<b>Measures Specific to Demolition</b>		
Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust)	✓	
Ensure water suppression is used during demolition operations.		✓
Avoid explosive blasting, using appropriate manual or mechanical alternatives		✓
Bag and remove any biological debris or damp down such material before demolition		✓
<b>Measures Specific to Construction</b>		
Avoid scabbling (roughening of concrete surfaces), if possible	✓	

Measure	Desirable	Highly Recommended
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place		✓
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery	✓	
For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust	✓	
<b>Measures Specific to Trackout</b>		
Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site	✓	
Avoid dry sweeping of large areas	✓	
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport	✓	



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