



create



Frough Limited

233 HIGH STREET, UXBRIDGE

Air Quality Assessment

Independent, multidisciplinary engineering
and environmental consultants

233 HIGH STREET, UXBRIDGE

Air Quality Assessment

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CONTENTS

1.0	INTRODUCTION
2.0	LEGISLATIONS AND POLICY CONTEXT
3.0	BASELINE CONDITIONS
4.0	CONSTRUCTION PHASE ASSESSMENT
5.0	AIR QUALITY IMPACT ASSESSMENT
6.0	AIR QUALITY NEUTRAL ASSESSMENT
7.0	BEST PRACTICE MEASURES
8.0	CONCLUSIONS
9.0	DISCLAIMER
10.0	REFERENCES

APPENDICES

- A. Construction Phase Assessment Methodology
- B. Air Quality Impact Assessment Methodology

1.0 INTRODUCTION

- 1.1 Create Consulting Engineers Limited (CCE) have been appointed by Frough Limited to undertake an Air Quality Assessment (AQA) in support of the redevelopment of 233 High Street, Uxbridge.
- 1.2 The proposed development lies within the jurisdiction of the London Borough of Hillingdon (LBH). The site is bounded by High Street to the south a service road to the west and Cumberland Way to the north. The red line boundary is shown in Figure 1.1.
- 1.3 The site includes two linked buildings, with the former Regal Cinema entrance on the High Street. The cinema sits behind terraced buildings and south of Cumbrian Way. The proposals involve converting the existing nightclub into a banqueting suite and constructing a new four-storey hotel with 30 bedrooms.
- 1.4 The completion year of the development is expected to be 2028.

Assessment Scope

- 1.5 This report considers potential air quality impacts associated with both the construction and operation of the development. Likely changes in local air quality have been assessed in relation to the UK Air Quality Objectives (AQOs). Also, where required, the AQA considers mitigation measures to reduce the effect of the proposed development upon local air quality.
- 1.6 In terms of the construction impacts, the development proposal will have the potential to generate dust, particulate matter (PM₁₀) during the construction phases. This has been assessed to provide an adequate level of dust mitigation and practices during the construction phases.
- 1.7 Vehicle movements generated during the operation of the development will give rise to NO₂, PM₁₀ and PM_{2.5} emissions which will have potential impacts to worsen air quality within the area.

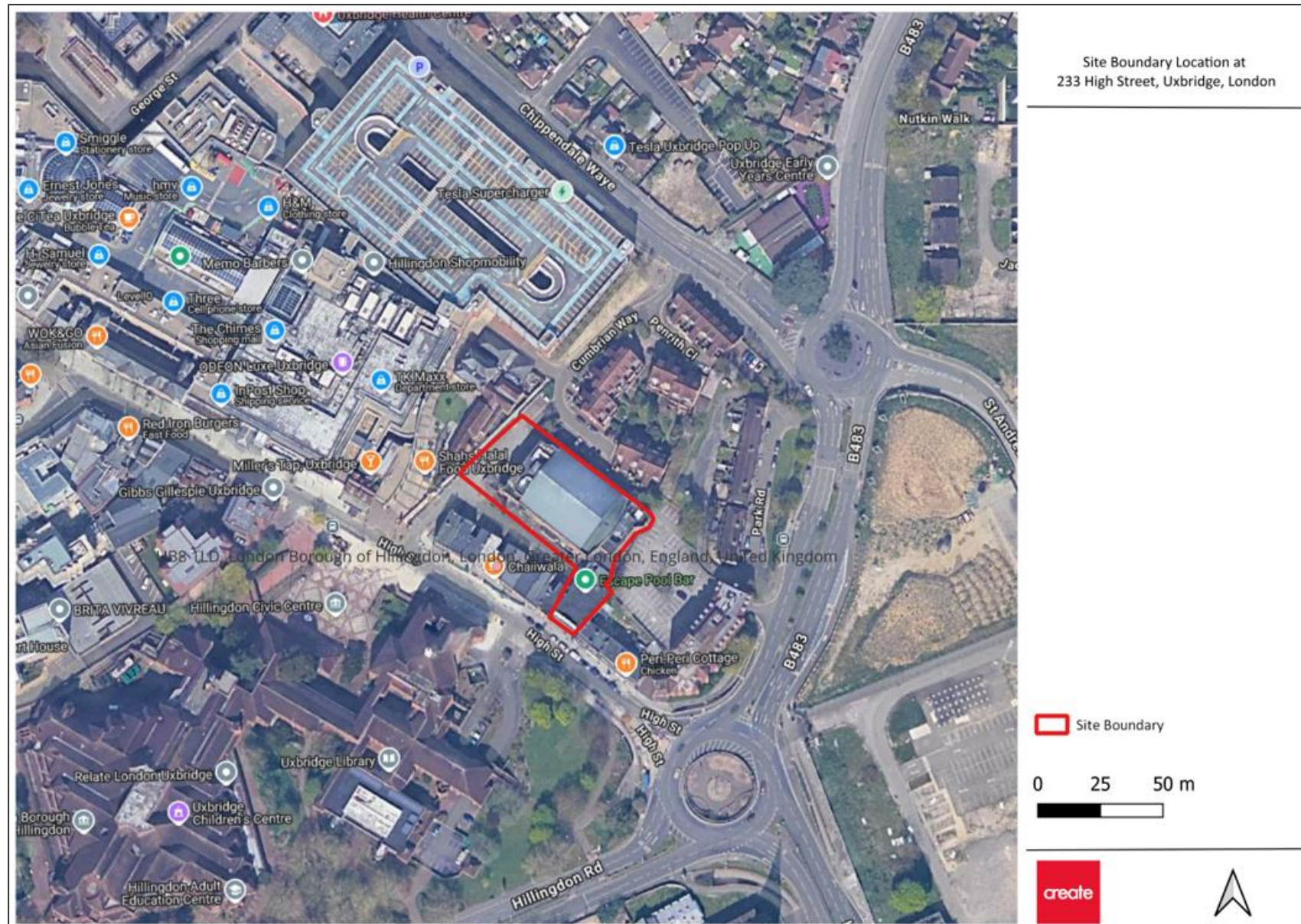


Figure 1.1: Location of the development site

2.0 LEGISLATION AND POLICY CONTEXT

Environment Act 1995

- 2.1 The Environment Act 1995 placed a responsibility on the UK Government to prepare an Air Quality Strategy (AQS) for England, Scotland, Wales and Northern Ireland. The most recent version of the strategy (2023) sets out the current UK framework for air quality management and includes a number of AQOs for specific pollutants.

Clean Air Strategy 2019

- 2.2 The primary focus of air quality management has primarily been related to NO₂ and its principal source in the UK, road traffic. The Clean Air Strategy aims to broaden the focus to other areas, including actions on clean growth, emissions from domestic wood burning stoves, industry and agriculture.

Environment Act 2021

- 2.3 The Environment Act 1995 is being updated to include several changes that aim to improve air quality in England. These changes include a requirement for the Secretary of State to review the National Air Quality Strategy every five years, as well as a requirement for annual reports to be made to Parliament on the progress made towards achieving air quality objectives. Additionally, changes are being made to the way Air Quality Management Areas (AQMAs) are designated and managed.

- 2.4 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 set a new target for PM_{2.5} in ambient air to reduce air pollution's environmental and health impacts. These Regulations come into force on the day after the day on which they are made:

The annual mean concentration target is that by the end of 31st December 2040 the annual mean level of PM_{2.5} in ambient air must be equal to or less than 10 µg/m³ ("the target level").

- 2.5 The Environmental Improvement Plan 2023 for England set interim targets by January 2028:

An annual average of 12 µg/m³ for PM_{2.5} is not exceeded at any monitoring station.

- 2.6 Table 2.1 details the current AQOs in relation to the proposed development and this assessment.

Pollutant	Air Quality Objectives		
	Concentration	Measured as	
Nitrogen Dioxide (NO ₂)	200 µg/m ³	1-hour mean not to be exceeded more than 18 times per year	
	40 µg/m ³	Annual mean	
Particulate Matter (PM ₁₀)	50 µg/m ³	24-hour mean not to be exceeded more than 35 times per year	
	AQO	20 µg/m ³	Annual mean
Particulate Matter (PM _{2.5})	Interim target by 2028	12 µg/m ³	Annual mean
	Legally binding target by 2040	10 µg/m ³	

Table 2.1: Air Quality Objectives (England)

National Planning Policy Framework 2024

2.7 The National Planning Policy Framework (NPPF), paragraph 199, states 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.

Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.”

Environmental Protection Act 1990

2.8 The main requirements with respect to dust control from industrial or trade premises not regulated under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments, such as construction sites, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

“any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance.”

2.9 Enforcement of the Act, regarding nuisance, is currently under the administration of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation

of nuisance. If the LA is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). Enforcement can insist that there be no dust beyond the boundary of the works. The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practice measures.

Regional Planning Policy

The London Plan

2.10 Policy SI 1 of The London Plan, "Improving Air Quality", contains guidance for air quality in relation to planning decisions.

- 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; and/or*
 - 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; and/or*
 - 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.*

London Environment Strategy

- 2.11 The most recent London Environment Strategy which replaced Mayor's Air Quality Strategy (MAQS) for London was published in August 2017. The overarching aim of the Strategy is to reduce pollution concentrations and tackle the most urgent environmental challenges facing our city, as well as safeguard London's environment over the longer term. We need to ensure that London is greener, cleaner and ready for the future. The Strategy commits to the continuation of measures identified in the 2010 MAQS and sets out a series of additional measures.

***"Policy 4.1.1* Make sure that London and its communities, particularly the most disadvantaged and those in priority locations, are empowered to reduce their exposure to poor air quality;**

***Policy 4.1.2* Improve the understanding of air quality health impacts to better target policies and action;**

***Policy 4.2.3* Reduce emissions from non-transport sources, including by phasing out fossil fuels;**

***Policy 4.2.4* The Mayor will work with the government, the London boroughs and other partners to accelerate the achievement of legal limits in Greater London and improve air quality;**

***Policy 4.2.5* The Mayor will work with other cities (here and internationally), global city and industry networks to share best practice, lead action and support evidence-based steps to improve air quality;**

***Policy 4.3.2* The Mayor will encourage the take up of ultra-low and zero emission technologies to make sure London's entire transport system is zero emission by 2050 to further reduce levels of pollution and achieve WHO air quality guidelines;**

***Policy 4.3.3* Phase out the use of fossil fuels to heat, cool and maintain London's buildings, homes and urban spaces, and reduce the impact of building emissions on air quality."**

Local Planning Policy

London Borough of Hillingdon Local Plan

- 2.12 The London Borough of Hillingdon Local Plan sets out the borough's planning strategy up to 2026, guiding development, housing, and infrastructure. It consists of two parts: strategic policies (Part 1, adopted in 2012) and detailed development management policies and site allocations (Part 2, adopted in 2020). A review is underway to align with national planning reforms, with a new plan expected by December 2026.
- 2.13 Hillingdon's Local Plan incorporates air quality considerations into planning decisions, requiring developments to be air quality neutral in line with the London Plan.

- 2.14 Policies in Local Plan Part 2 guide how air quality is assessed and mitigated in planning applications, especially near Air Quality Focus Areas and pollution hotspots like Heathrow and major roads.

LONDON BOROUGH OF HILLINGDON LOCAL PLAN PART 2: DEVELOPMENT MANAGEMENT POLICIES (Adopted 2020)

- 2.15 This Development Management Policies document forms part of Hillingdon's Local Plan Part 2 and sets out detailed policies to guide the Council's decisions on individual planning applications.

" Policy DME1 14: Air Quality

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

B) Development proposals should, as a minimum:

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

Air Quality Action Plan-2019-2024

- 2.16 The 2019-2024 Air Quality Action Plan (AQAP) focused on reducing emissions from road transport, aviation, and construction, while promoting sustainable travel and low-emission development. It supported borough-wide health and transport strategies and emphasized monitoring, public awareness, and planning controls.
- 2.17 A new draft AQAP (2025-2030) is currently under consultation. It prioritises five key areas: enhanced monitoring (including ultrafine particles near Heathrow), urban greening, cleaner transport, protection for vulnerable groups, and public education—aiming to meet WHO air quality guidelines and reduce health inequalities.

Key Guidance Documents

The Control of Dust and Emissions During Construction and Demolition (MOL SPG, 2014)

- 2.18 This guidance provides advise, methodology and criteria to assess the dust impacts that arise from construction activities. This assessment evaluates the impact of dust soils and human health impacts during the demolition, earthworks, construction and trackout activities. The methodology is replicated in Appendix A of this report.

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

- 2.19 This guidance provides advise, methodology and criteria to assess the dust impacts that arise from construction activities. This assessment evaluates the impact of dust soils and human health impacts during the demolition, earthworks, construction and trackout activities. The methodology is replicated in Appendix A of this report.

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

- 2.20 This guidance includes a method for screening the requirement for an air quality impact assessment and whether a detailed assessment is required. The methodology is reproduced in Appendix B of this report.

Local Air Quality Management Technical Guidance (LAQM.TG22)

- 2.21 This technical guidance is used by local authorities in their review and assessment work. LAQM is a statutory process through which local authorities are required to monitor, assess, and take actions to improve local air quality.
- 2.22 Within this guidance, Box 1.1 contains examples where air quality objectives should apply. Annual mean objectives for NO₂ and PM₁₀ should apply at locations where members of the public might be regularly exposed, including building façades of residential properties, school, hospitals and care homes.
- 2.23 The following impacts should be assessed with the consideration of cumulative effects from other planned or proposed developments within the area:
- Impact of the proposed development upon the local air quality; and
 - The impact of local air quality on the receptors using the development.
- 2.24 The methodology is reproduced in Appendix B of this report.

London Plan Guidance: Air Quality Neutral (2023)

- 2.25 This guidance defines the requirements needed for a development to be AQN through its building emissions and associated transport emissions.
- 2.26 An Air Quality Neutral development is one that meets, or improves upon, the Air Quality Neutral benchmarks set out by the Greater London Authority. These benchmarks set out the maximum allowable emissions of NOX and Particulate Matter based on the size and use class of the proposed development.

PM_{2.5} Targets: Interim Planning Guidance

- 2.27 The interim guidance, published on 4 October 2024 by DEFRA, applies to future developments and those in pre-application stages at the time of publication. The guidance shifts the focus from solely assessing the risk of exceeding legal air quality limits to ensuring that mitigation measures are incorporated during the design phase. This approach aims to streamline the planning process while minimising pollution emissions and exposure. Until the release of the final guidance, applicants are advised to demonstrate in their planning applications that they have identified key sources of air pollution within their schemes and have taken appropriate measures to minimise emissions of PM_{2.5} and its precursors as far as practicable.
- 2.28 The following questions are designed to support the interim process; however, applicants are encouraged to consider additional measures beyond those listed below:

1. How has exposure to PM_{2.5} been considered when selecting the development site?

Applicants are advised to consider the following in their application:

- *Site proximity to people (particularly large populations and/or vulnerable groups, e.g. schools, hospitals, care homes, areas of deprivation) and the impact of the development on these,*
- *Site proximity to pollution sources and the impact of these on users of the development,*
- *Exposure and emissions during both construction and in-use.*

2. What actions and/or mitigations have been considered to reduce PM_{2.5} exposure for development users and nearby receptors (houses, hospitals, schools etc.) and to reduce emissions of PM_{2.5} and its precursors?

Applicants are advised to explain (with evidence where possible) why each measure was implemented. Or, if no mitigation measures have been implemented, why this was not proposed. Actions can refer to, but are not limited to, the following:

- *Site layout,*
- *The development's design,*
- *Technology used in the construction or installed for use in the development,*
- *Construction and future use of the development.*

3.0 BASELINE CONDITIONS

3.1 Baseline data was gathered from the following sources:

- DEFRA's UK AIR website; and
- DEFRA's national air quality background maps 2021.

Local Air Quality Management

Air Quality Management Areas

3.2 As required by the Environment Act (1995), LBH has undertaken a review and assessment of air quality within their administrative area. LBH declared an AQMA due to elevated annual mean NO₂ concentrations. The declared AQMA is described as:

"Hillingdon AQMA"

3.3 The development is within the AQMA and may contribute to poor air quality if proper management and mitigation measures are not implemented. This has been considered within this assessment.

Air Quality Monitoring Data

3.4 LBH operated 12 continuous automatic monitoring stations and 44 passive monitoring stations (diffusion tubes) within the borough in 2023.

3.5 LB Hillingdon's Air Quality Annual Status Report is not available online, so the measured data from nearby monitoring sites could not be reviewed. An email was sent to the Environmental Protection department, but no response had been received at the time of writing.

LAEI Air Quality Modelling Maps

3.6 The London Atmospheric Emissions Inventory (LAEI) 2019 have used the latest data sources (emission factors, activity data, etc) to estimate ground level concentrations of key pollutants across Greater London for the years 2019, 2025, and 2030.

3.7 Figures 3.1 to 3.3 show the modelled concentrations of NO₂, PM₁₀, and PM_{2.5} at the proposed development site in 2025.

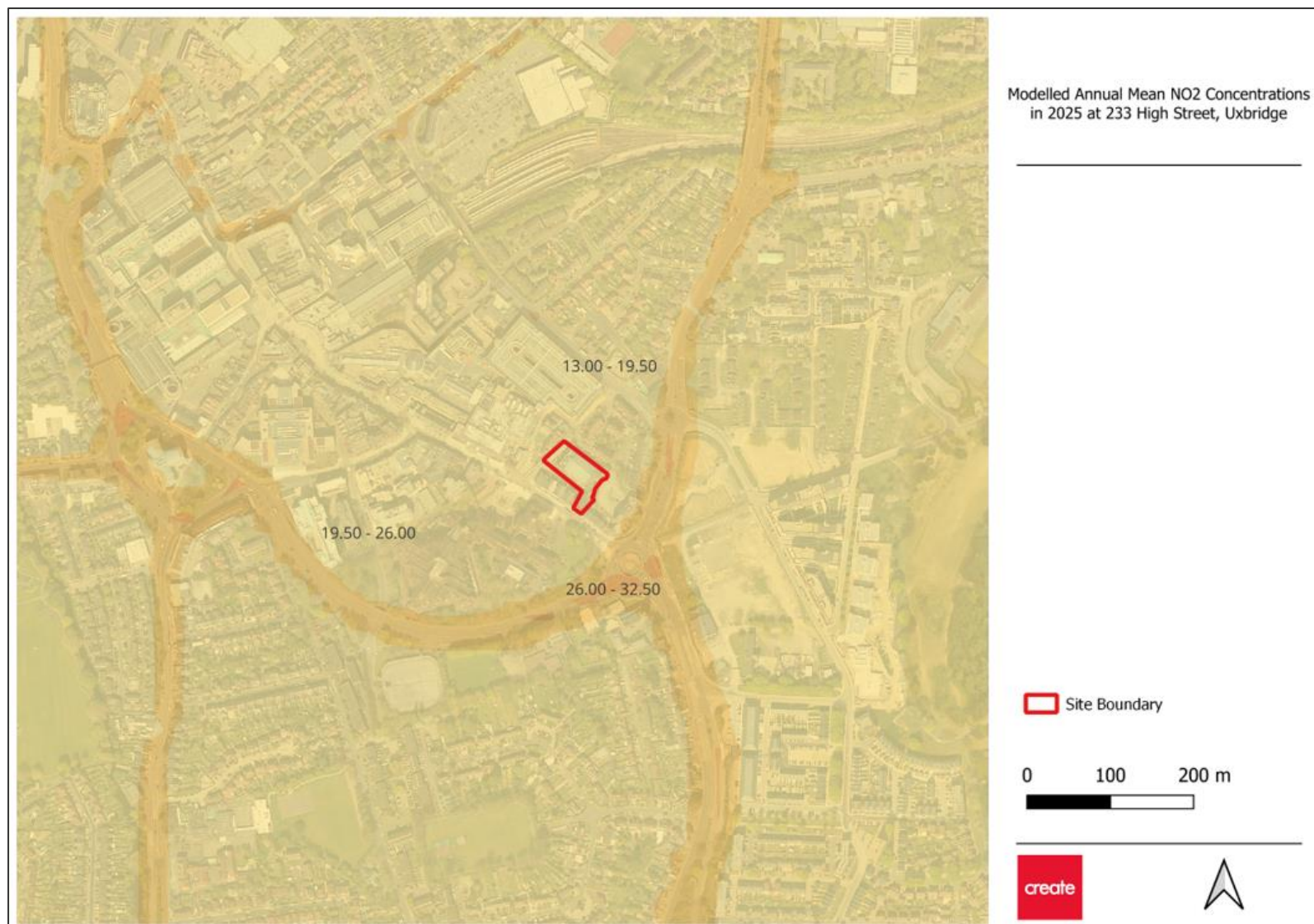


Figure 3.1: Modelled Annual Mean NO₂ Concentrations in 2025 [LAEI 2019]

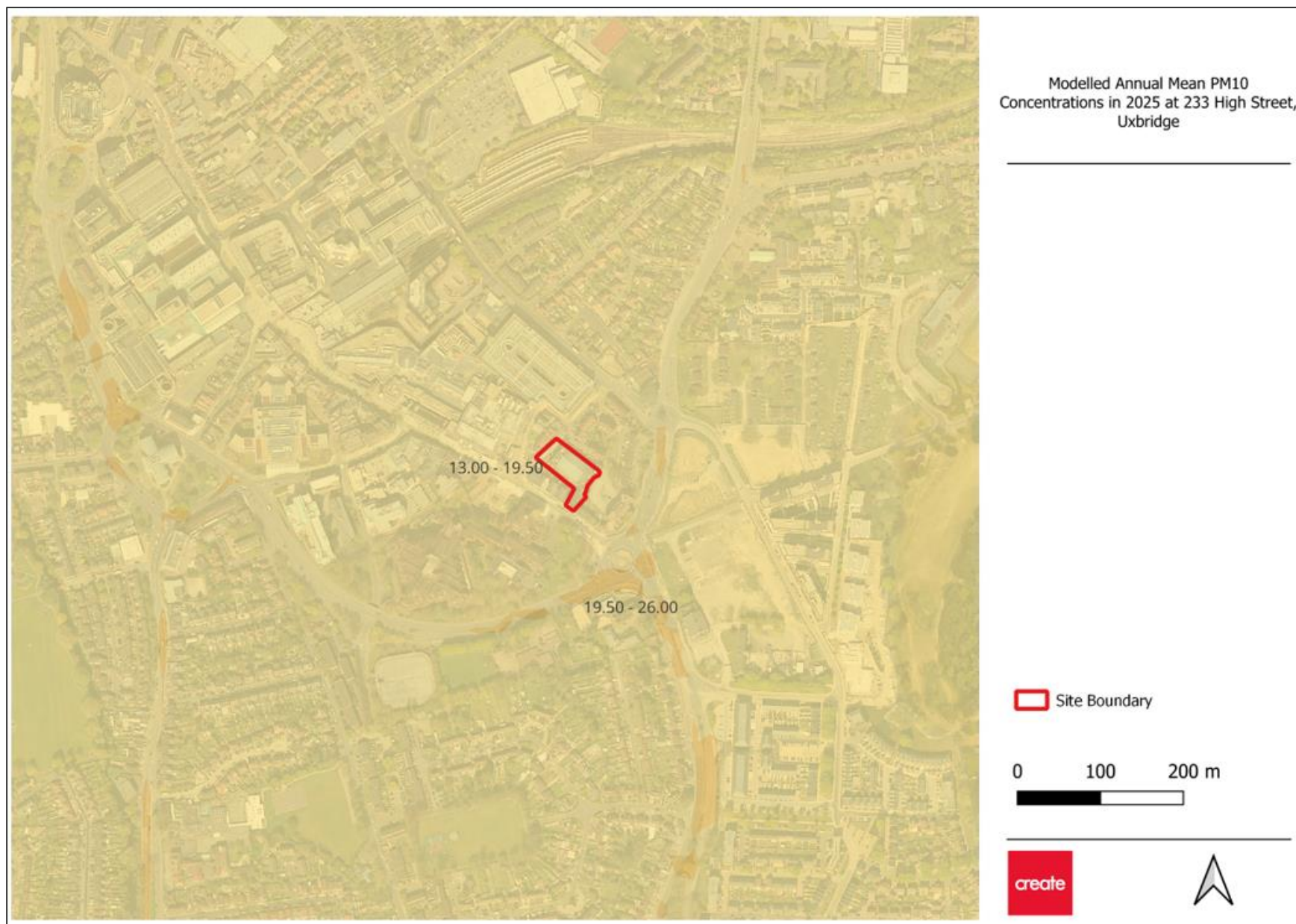


Figure 3.2: Modelled Annual Mean PM₁₀ Concentrations in 2025 [LAEI 2019]

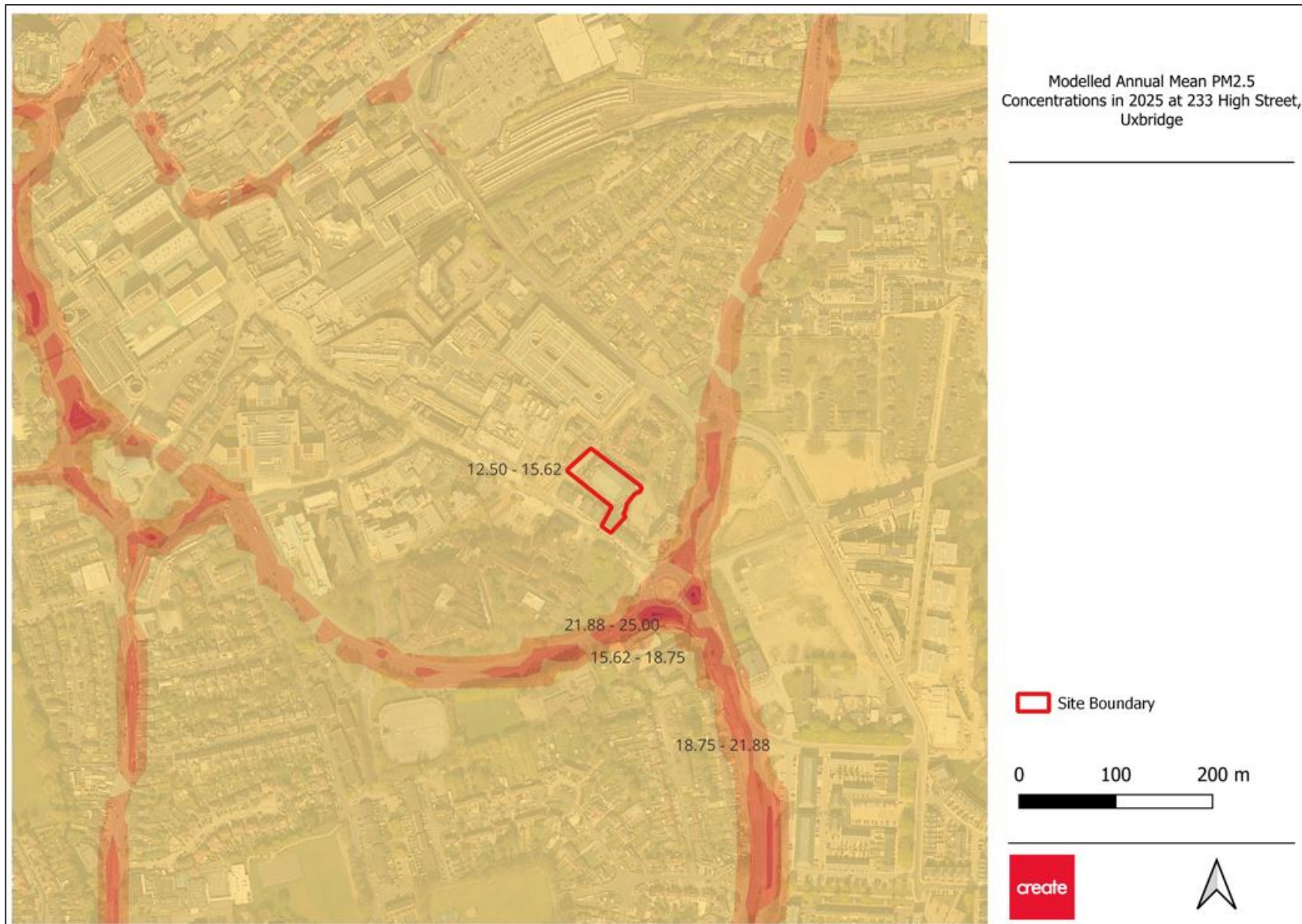


Figure 3.3: Modelled Annual Mean PM_{2.5} Concentrations in 2025 [LAEI 2019]

- 3.8 Figure 3.1 indicates that the site is located in an area where the annual mean NO₂ concentrations are between 13 and 19.50 µg/m³ across the site in 2025. Therefore, the annual mean AQO of 40 µg/m³ is not likely to be exceeded at the site in 2028.
- 3.9 Figure 3.2 indicates that the site is located in an area where the annual mean PM₁₀ concentrations are between 13 and 19.50 µg/m³ across the site in 2025. Therefore, the annual mean AQO of 40 µg/m³ is not likely to be exceeded at the site in 2028.
- 3.10 Figure 3.3 indicates that the site is located in an area where the annual mean PM_{2.5} concentrations are between 12.50 and 15.62 µg/m³ across the site in 2025. Therefore, it is likely that the legally binding target of 10 µg/m³ will be slightly exceeded at the site in 2028.

Mapped Background Pollution

- 3.11 Predictions of background pollutant concentrations on a 1km-by-1km grid basis have been produced by DEFRA for the entire of the UK to assist Local Authorities (LAs) in their Review and Assessment of air quality.
- 3.12 The proposed development site is located in grid squares NGR: 505500, 183500. Predicted background concentrations for the baseline year (2023), the present year (2025), and 2028, when the development is expected to be fully completed, are shown in Table 3.3.

Pollutant	Predicted Background Concentration (µg/m ³)		
	2023	2025	2028
NO _x	22.87	20.70	18.06
NO ₂	16.53	15.13	13.39
PM ₁₀	14.27	14.09	13.86
PM _{2.5}	8.23	8.04	7.82

Table 3.3: DEFRA Predicted Background Concentrations

- 3.13 As shown in Table 3.3, background concentrations do not exceed the relevant AQOs and are predicted to decline further by the year of completion.
- 3.14 Predicted PM_{2.5} concentrations remain below the legally binding target of 10 µg/m³ in all years. Consequently, PM_{2.5} concentrations at the proposed development are not expected to exceed this target.

Air Quality Focus Area

- 3.15 The GLA has identified 187 Air Quality Focus Areas (AQFAs) within London. These are locations where the annual mean NO₂ concentrations breach the annual AQO and human exposure to air pollution is high. AQFAs are tools to help London Boroughs to target action in the most problematic areas.
- 3.16 Nineteen of these AQFAs are located within LB Hillingdon. The proposed development site lies within the Uxbridge Town Centre AQFA. Therefore, new developments are required to limit their impacts in accordance with the measures set out in LBH's AQAP.
- *Air Quality Neutral applied to all developments as minimum.*
 - *Air Quality Positive applied for major developments and for all development within catchment areas of Air Quality Focus Areas.*

- *Applied a zero emissions approach towards developments when located in or affecting sensitive areas such as Air Quality Focus Areas, near vulnerable receptors such as schools, care homes, hospitals, and densely populated residential areas.*
- *Required total emission mitigation within catchment areas of Focus Areas. Pollution damage costs were used consistently as the basis for s106 contributions where mitigation offered was considered not sufficient and or appropriate.*
- *ensured adequate, appropriate, and well-located green space and infrastructure in new developments.*
- *ensured emissions from construction were minimized with enforcement of Non-Road Mobile Machinery (NRMM) air quality policies. 85 construction site audits undertaken.*
- *Level of mitigation ascertained for total emissions from diesel emergency backup generators attached to development such as data centres using Defra's damage costs approach to gain a S106 obligation when mitigation provided by the developer was insufficient to mitigate total emissions.*
- *Promoted energy efficiency retrofitting projects in workplaces and homes. A total of 1207 boilers were replaced.*

4.0 CONSTRUCTION PHASE ASSESSMENT

- 4.1 There is the potential for air quality impacts during the construction phase of the site. The methodology for this assessment is detailed in Appendix A, and considered further below.

Sensitive Receptors

- 4.2 A sensitive receptor is defined as any location which may be affected by changes in air quality as a result of a development. These have been defined for construction dust impacts in the following Sections.
- 4.3 The proposed development is surrounded by a mix of commercial, retail, office, and residential buildings.
- 4.4 Based on the criteria shown in Table A2, Appendix A, the sensitivity of the receiving environment to potential dust impacts is considered to be high. This is because users would expect to enjoy a high level of amenity.

Ecological Receptors

- 4.5 Ecological receptors were analysed using Magic Maps website which provides authoritative geographic information about the natural environment from across the government. This application is managed by Natural England. The application showed that the site boundary and trackout route are within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ).
- 4.6 There are no Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), or Local Nature Reserves (LNRs) within 50m of the development boundary or the access route used by construction vehicles on the public highway, nor within 500m of the site entrance. As such, ecological impacts on these designated areas have not been further assessed in this report.

Construction and Trackout Sensitive Receptors

- 4.7 Receptors sensitive to potential dust impacts during all construction activities were identified from a desk-top study of the area up to 250 m from the development boundary. These are summarised in Table 4.1.

Distance from Site Boundary (m)	Approximate Number of High Sensitivity Receptors
Less than 20	10 - 100
Less than 50	10 - 100
Less than 100	10- 100
Less than 350	More than 100

Table 4.1: Construction Activities Dust Sensitive Receptors

- 4.8 Receptors sensitive to potential dust impacts from trackout were identified from a desk-top study of the area up to 500 m of the site and within 50 m of the road. These are summarised in Table 4.2.

- 4.9 The exact construction vehicle access routes are not available for the purpose of this assessment as they will depend on sourcing of materials. This is likely to be decided by the contractor. It is expected that vehicles will use High Street to access the development.

Distance from Site Access Route (m)	Approximate Number of High Sensitivity Receptors
Less than 20	1-10
Less than 50	1-10

Table 4.2: Trackout Activities Dust Sensitive Receptors

Additional Factors

- 4.10 The wind direction is predominantly from southwesterly. As such, receptors to the northeast are mostly affected by dust emissions.
- 4.11 A review of LBH planning portal shows that there are no approvals for large scale developments in close proximity to the proposed development site boundary.
- 4.12 The development will be constructed over several phases, where the localised impact on nearby receptors will keep changing. It is not expected that one set of receptors will be subjected to construction activities and dust for more than two years. Therefore, the long-term dust impact on receptors will be low.

Sensitivity of the Surrounding Area

- 4.13 Sensitive receptors have been assessed based on distance from the source and annual mean PM₁₀ concentrations within the area. This has been used to determine the sensitivity of the surrounding area to demolition, earthworks, construction and trackout activities.
- 4.14 Table 4.3 shows the sensitivity of the surrounding area in relation to dust soiling, human health impacts and ecological impacts for each of the construction activities.

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

Table 4.3: Sensitivity of the Surrounding Area

Construction Phase Assessment

- 4.15 The undertaking of activities such as excavation, ground works, cutting, construction and storage of materials has the potential to result in fugitive dust emissions throughout the construction phase. Vehicle movements both on-site and on the local road network also have the potential to result in the re-suspension of dust from haul road and highway surfaces.
- 4.16 The potential for impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.

- 4.17 There is currently no data available on the construction-based activities. Therefore, professional judgement has been used to assess each activity.

Demolition

- 4.18 It is proposed to convert the former nightclub space into a banqueting hall and refurbish the unused gym areas as part of the hotel. Some internal structures have already been demolished, with further internal demolition planned. The total volume of demolition is estimated to be less than 12,000 m³ and may include potentially dusty construction materials such as concrete. On-site crushing may take place. Demolition activities are expected to occur at elevations between 6 and 12 metres above ground level.
- 4.19 In accordance with the criteria outlined in Table A1, the magnitude of potential dust emissions from earthworks is therefore small.

Earthworks

- 4.20 Earthworks will primarily involve excavating material, haulage, tipping and stockpiling. This may also involve levelling the site and landscaping. The total site area is less than 18,000 m², underlain by the London Clay Formation comprising clay, silt, and sand (sedimentary bedrock). Less than 5 heavy earth-moving vehicles are expected to be active at any one time, with bunds formed to a height of less than 3 m.
- 4.21 In accordance with the criteria outlined in Table A1, the magnitude of potential dust emissions from earthworks is therefore small.

Construction

- 4.22 Construction works will include the erection of a four-storey side extension to the west of the existing cinema building to accommodate a 30-room hotel. The total construction volume is expected to be less than 12,000 m³. Materials are likely to include concrete, timber, metals, and cladding. On-site concrete batching and sandblasting are uncertain but have been considered as part of this assessment.
- 4.23 In accordance with the criteria outlined in Table A1, the magnitude of potential dust emissions from construction works is therefore small.

Trackout

- 4.24 Trackout activities will include vehicles accessing and leaving the site with new construction materials and site waste. Unpaved road is not expected. Trackout materials, including potential dust from the delivery of construction materials. The number of HDV movements per day is expected to be less than 20 movements.
- 4.25 In accordance with the criteria outlined in Table A1, the magnitude of potential dust emissions from trackout activities is therefore small.

Risk of Impacts

- 4.26 The predicted dust emission magnitude has been combined with the defined sensitivity of the area to determine the risk of impacts during the construction phase, prior to mitigation.

- 4.27 Table 4.4 provides a summary of the risk of impacts for the proposed development. The highest risk category identified for each construction activity has been used to determine the level of mitigation required.

Potential Impact	Risk of Dust Impacts			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium	Low	Low	Low
Human Health	Negligible	Negligible	Negligible	Negligible

Table 4.4: Summary of Potential Unmitigated Dust Risks

- 4.28 As indicated in Table 4.4, the highest risk for dust generating activities during demolition is medium, and from earthworks, construction and trackout activities is low. The overall dust risk level is classed as a medium risk for all non-specified activities.
- 4.29 It should be noted that the potential for impacts depends significantly on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the site boundary closest to each sensitive area. Therefore, actual risk is likely to be lower than that predicted during the majority of the construction phases.

Mitigation and Residual Effects

- 4.30 The IAQM guidance provides a number of potential mitigation measures to reduce impacts during the construction phase. These measures have been adapted for the development site as summarised in Table 5.5.
- 4.31 The mitigation measures can be reviewed prior to the commencement of construction works incorporated into the existing the strategies as applicable.
- 4.32 Assuming the relevant mitigation measures outlined in Table 4.5 are implemented, the residual effect from all dust generating activities is predicted to be not significant, in accordance with the IAQM guidance.

Guidance	Comment
Site Management	• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site. • Develop a DMP. • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. • Display the head or regional office information. • Record and respond to all dust and air quality pollutant emissions complaints. • Make the 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 the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
Preparing and Maintaining the Site	• Plan site layout: machinery and dust causing activities are located away from receptors. • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site. • Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period. • 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 from site as soon as possible. • Cover, seed or fence stockpiles to prevent wind whipping. • Carry out regular dust soiling checks of buildings within 100 m of site boundary and cleaning to be provided if necessary. • Agree monitoring locations with the Local Authority. • Where possible, commence baseline monitoring a least three months before phase begins. • Put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly.
Operating Vehicle/ Machinery and Sustainable Travel	• Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone. • Ensure all NRMM comply with the standards set within this guidance. • Ensure all vehicles switch off engines when stationary - no idling vehicles.

Guidance	Comment
Operations	• Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where possible. • Impose and signpost a maximum-speed-limit of 10 mph on surfaced hauled routes and work areas. • Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials. • Implement a Travel Plan that supports and encourages sustainable travel.
	• 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 recycled water where possible). • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Waste Management	• Reuse and recycle waste to reduce dust from waste materials • Avoid bonfires and burning of waste materials.
Demolition	• Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust). • Ensure water suppression is used demolition operations. • Avoid explosive blasting, using appropriate manual or mechanical alternative. • Bag and remove any biological debris or damp down such material before demolition.
Construction	• Avoid scabbling (roughening of concrete surfaces) if possible. • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
Trackout	• 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 securely covered to prevent escape of materials during transport. • Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

Table 4.5: Fugitive Dust Mitigation Measures

5.0 AIR QUALITY IMPACT ASSESSMENT

Proposed Development Impact on Surrounding Area

- 5.1 An impact assessment has been undertaken in accordance with EPUK-IAQM guidance to understand the effect that the development will have upon air quality within the surrounding area.

Stage 1 Criteria

- 5.2 The first stage of the air quality impact assessment is to investigate the Stage 1 criteria, depicted in Table B1, Appendix B of this report.
- 5.3 The site area is less than 0.5 ha, includes nine car parking spaces, and will be heated via air source heat pumps (ASHP), with no on-site combustion sources. Based on these results, the development has been screened out at stage 1. This means that the development is not expected to worsen air quality for the neighbouring community.

The impact of local air quality on Future Site Users

- 5.4 There is no monitoring data available online to determine baseline air quality conditions at the site. However, modelled concentrations from the London Atmospheric Emissions Inventory indicate that annual mean concentrations of NO₂ and PM₁₀ are below the relevant Air Quality Objectives, and are expected to remain so in 2028, the anticipated year of development completion.
- 5.5 Although PM_{2.5} concentrations are predicted by LAEI to exceed the legally binding target of 10 µg/m³ in 2025, Defra's background projections indicate levels will fall below this threshold by 2028. Given the known challenges associated with PM_{2.5}, this remains a key consideration. However, the implementation of Best Practice Guidance, as outlined in Section 8, will minimise the development's impact and support improvements in local air quality. The proposals are therefore expected to make a positive contribution overall.

6.0 AIR QUALITY NEUTRAL ASSESSMENT

- 6.1 The London Plan Policy SI 1 requires all development across London to be 'air quality neutral' and not lead to further deterioration of existing poor air quality (e.g., developments situated within an AQMA). This assessment has been undertaken in line with the Draft Air Quality Neutral London Plan Guidance (February 2023).
- 6.2 A development is considered Air Quality Neutral if it meets or performs better than the Air Quality Neutral benchmarks. These benchmarks set out the maximum allowable emissions of NO_x from the main sources of pollution in new developments. There are two sets of benchmarks:
- **Building Emissions Benchmark (BEB)** – emissions from equipment used to supply heat and energy to the buildings
 - **Transport Emissions Benchmark (TEB)** – emissions from private vehicles travelling to and from the development
- 6.3 A development must meet both benchmarks separately in order to be Air Quality Neutral. If one or both benchmarks are not met, appropriate mitigation or offsetting will be required.
- 6.4 The Air Quality Neutral Assessment for the proposed development is provided in the following Sections.

Building Emissions

- 6.5 Heating and hot water will be provided through ASHP. These do not produce emissions to the atmosphere. There are no gas systems, or systems with combustion processes being proposed, meaning the development will not generate NO_x emissions. As such, the proposals are considered to be air quality neutral in terms of building emissions, and no mitigation is required.

Transport Emissions

- 6.6 The total benchmark trip rates have been calculated as shown in Table 6.1.

Category	Area	Benchmark Trip Rate (g/m ² /year)	Total NO _x Benchmark Trip Rate(g/year)
Hotel Benchmark	413	6.9	2,850
banqueting suite Benchmark	924 m ²	170	157,080
Total Benchmark			159,930

Table 6.1: Total Transport Emissions

- 6.7 According to the Transport Statement (Ref: VRP2001- 01) prepared by RKS Associates, the 30-bedroom hotel is estimated to produce around 35 two-way trips daily, and the banqueting suite, accommodating up to 250 guests, is likely to generate up to 32 two-way trips, mostly via taxis or sustainable modes.

- 6.8 Total Annual Car Driver Trips = $67 \times 365 = 24,455$ trips / year. Therefore, the total development trip rate is less than the TEB. The development is thus Air Quality Neutral in terms of transport emissions.

Summary

- 6.9 Based on the above, the development's building and transport emissions have been screened out. Therefore, the whole development is air quality neutral and no additional mitigation measures or financial contributions are required to offset the potential air quality impacts.

7.0 BEST PRACTICE MEASURES

Construction Phase

- 7.1 MOL SPG provides a number of potential mitigation measures to reduce impacts from the construction phases. A medium risk of dust impacts from demolition was identified, with a low risk from earthworks, construction and trackout activities. As a result, mitigation measures are required. These have been adapted for the development site as summarised in Table 4.5.
- 7.2 These may be reviewed prior to the commencement of construction works and incorporated into a Construction Environmental Management Plan if required by LBH.

Operational Phase

- 7.3 LAEI and Defra modelled annual mean concentrations of NO₂ and PM₁₀ across the proposed development site are below the relevant Air Quality Objectives (AQOs) in 2025, and these levels are expected to remain compliant in 2028, the anticipated year of completion. Furthermore, in accordance with EPUK-IAQM guidance, the development is expected to have a negligible impact on local air quality.
- 7.4 Although LAEI predicts annual mean PM_{2.5} concentrations above the legally binding AQO in 2025, levels have been declining year-on-year, and Defra background projections indicate concentrations will fall below 10 µg/m³ by 2028.
- 7.5 Potential best practice mitigation options to further reduce operational effects are listed below, suggested by IAQM. It is acknowledged that this is not an exhaustive list but sets out a range of mitigation measures which could be explored at the conditions stage of the development:
- Travel Plan (where required) including mechanisms for discouraging high emission vehicle use and encouraging the uptake of low emission fuels and technologies;
 - A Welcome Pack available to all residents online and as a booklet, containing information and incentives to encourage the use of sustainable transport modes; and
 - Car club provision within the Development or support given to local car club/Electric vehicle car clubs.
- 7.6 If the above measures are implemented, this will further reduce the potential impacts associated with the development.

8.0 CONCLUSIONS

- 8.1 Create Consulting Engineers Limited have been appointed by Frough Limited to undertake an Air Quality Assessment (AQA) in support of the redevelopment of 233 High Street, Uxbridge.
- 8.2 During the construction phase of the development there is the potential for air quality impacts as a result of fugitive dust emissions from the site. These were assessed in accordance with the IAQM and MOL SPG methodologies. Assuming good practice dust control measures are implemented, the residual significance of potential air quality impacts from dust generated by demolition, earthworks, construction, and trackout activities was predicted to be negligible.
- 8.3 The desktop study indicates that predicted annual mean NO₂ and PM₁₀ concentrations across the site are expected to be below the relevant AQOs for the proposed operational year, 2028. Additionally, the development is anticipated to have a negligible impact on local air quality, consistent with EPUK-IAQM guidance.
- 8.4 Although LAEI predicts annual mean PM_{2.5} concentrations above the legally binding AQO in 2025, levels have been declining year-on-year, and Defra background projections indicate concentrations will fall below 10 µg/m³ by 2028.
- 8.5 An Air Quality Neutral Assessment was undertaken to evaluate the building and transport emissions of the proposed development. As the development is based on ASHP, it is considered air quality neutral.
- 8.6 The trips generated by the proposed development are calculated to be below the Transport Emissions Benchmark; therefore, the development is considered air quality neutral.
- 8.7 Additional mitigation measures are outlined in Section 8 to further reduce operational impacts. With these measures in place, air quality should not be considered a constraint to granting planning consent for the proposed development.

9.0 DISCLAIMER

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APPENDIX A

Construction Phase Assessment Methodology

This section details the methodology and criteria used to assess the construction phase assessment in conjunction with Mayor of London's Supplementary Guidance (MOL SPG).

Construction Phase Assessment

There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the MOL SPG, 2014, "The Control of Dust and Emissions from Construction and Demolition; Supplementary Planning Guidance."

Activities on the proposed construction site have been divided into three types to reflect their different potential impacts. These are:

- Demolition;
- Earthworks
- Construction; and
- Trackout.

The potential for dust emissions was assessed for each activity that is likely to take place and considered three separate dust effects:

- Annoyance due to dust soiling;
- Harm to ecological receptors; and
- The risk of health effects due to a significant increase in exposure to PM₁₀.

The assessment steps are detailed below.

Step 1

Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 350m from the site boundary or 50m from the construction vehicle route up to 500m from the site entrance, then the assessment should proceed to Step 2. Additionally, should ecological receptors be identified within 50m of the boundary site or 50m from the construction vehicle route up to 500m from the site entrance, then the assessment should also proceed to Step 2.

Should sensitive receptors not be present within the relevant distances then negligible impacts would be expected and further assessment is not necessary.

Step 2

Step 2 assesses the risk of potential dust impacts. A site is allocated to a risk category based on two factors:

- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large (Step 2A); and
- The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity (Step 2B).

The two factors are combined in Step 2C to determine the risk of dust impacts without mitigation applied.

Step 2A defines the potential magnitude of dust emission through the construction phase. The relevant criteria are summarised in Table A1.

Magnitude	Activity	Criteria
Large	Demolition	• Total volume of building to be demolished 50,000m³ • Potential dusty construction material (e.g. concrete) • Onsite crushing and screening • Demolition activities more than 20m above ground
	Earthworks	• Total site area greater than 10,000m² • Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) • More than 10 heavy earth moving vehicles active at any one time • Formation of bunds greater than 8m in height • More than 100,000 tonnes of material moved
	Construction	• Total building volume greater than 100,000m³ • On site concrete batching • Sandblasting
	Trackout	• More than 50 Heavy Duty Vehicle (HDV) trips per day • Potentially dusty surface material (e.g. high clay content) • Unpaved road length greater than 100m
Medium	Demolition	• Total volume of building to be demolished 20,000m³ – 50,000m³ • Potential dusty construction material, • Demolition activities 10–20m above ground level
	Earthworks	• Total site area 2,500m² to 10,000m² • Moderately dusty soil type (e.g. silt) • 5 to 10 heavy earth moving vehicles active at any one time • Formation of bunds 4m to 8m in height • Total material moved 20,000 tonnes to 100,000 tonnes
	Construction	• Total building volume 25,000m³ to 100,000m³ • Potentially dusty construction material (e.g. concrete) • On site concrete batching
	Trackout	• 10 to 50 HDV trips per day • Moderately dusty surface material (e.g. high clay content) • Unpaved road length 50m to 100m
Small	Demolition	• Total volume of building to be demolished less than 20,000m³ • Construction material with low potential for dust release (e.g. metal cladding, or timber) • Demolition activities less than 10m above ground level • Demolition during wetter months

Magnitude	Activity	Criteria
	Earthworks	- Total site area less than 2,500m² - Soil type with large grain size (e.g. sand) - Less than 5 heavy earth moving vehicles active at any one time - Formation of bunds less than 4m in height - Total material moved less than 20,000 tonnes - Earthworks during wetter months
	Construction	- Total building volume less than 25,000m³ - Construction material with low potential for dust release (e.g. metal cladding or timber)
	Trackout	- Less than 10 HDV trips per day - Surface material with low potential for dust release - Unpaved road length less than 50m

Table A1: Construction Dust Magnitude

Step 2B defines the sensitivity of the area around the development site for construction, earthworks and trackout. The factors influencing the sensitivity of the area are shown in Table A2.

Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	- Users expect of high levels of amenity - High aesthetic or value property - People expected to be present continuously for extended periods of time - Locations where members of the public are exposed over a time period relevant to the AQO for PM₁₀ e.g. residential properties, hospitals, schools and residential care homes	Internationally or nationally designated site e.g. Special Area of Conservation
Medium	- Users would expect to enjoy a reasonable level of amenity - Aesthetics or value of their property could be diminished by soiling - People or property 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 e.g. parks and places of work	Nationally designated site e.g. Sites of Special Scientific Interest
Low	- Enjoyment of amenity would not reasonably be expected - Property would not be expected to be diminished in appearance - Transient exposure, where people would only be expected to be present for	Locally designated site e.g. Local Nature Reserve

Sensitivity	Examples	
	Human Receptors	Ecological Receptors
	limited periods. e.g. public footpaths, playing fields, shopping streets, playing fields, farmland, footpaths, short term car park and roads	

Table A2: Examples of Factors Defining Sensitivity of an Area

The guidance also provides the following factors to consider when determining the sensitivity of an area to potential dust impacts during the construction phase:

- Any history of dust generating activities in the area;
- The likelihood of concurrent dust generating activity on nearby sites;
- Any pre-existing screening between the source and the receptors;
- Any conclusions drawn from analysing local meteorological data which accurately represent the area; and if relevant the season during which works will take place;
- Any conclusions drawn from local topography;
- Duration of the potential impact, as a receptor may become more sensitive over time; and,
- Any known specific receptor sensitivities which go beyond the classifications given in the document.

These factors were considered in the undertaking of this assessment.

The sensitivity of the area to dust soiling effects on people and property is shown in Table A3.

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		Less than 20	Less than 50	Less than 100	Less than 350
High	More than 100	High	High	Medium	Low
	10 – 100	High	Medium	Low	Low
	1 – 10	Medium	Low	Low	Low
Medium	More than 1	Medium	Low	Low	Low
Low	More than 1	Low	Low	Low	Low

Table A3: Area Sensitivity to Dust Soiling Effects on People and Property

Table A4 outlines the sensitivity of the area to human health impacts.

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)				
			Less than 20	Less than 50	Less than 100	Less than 200	Less than 350
High	Greater than 32 µg/m ³	More than 100	High	High	High	Medium	Low
		10 – 100	High	High	Medium	Low	Low
		1 – 10	High	Medium	Low	Low	Low

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)				
			Less than 20	Less than 50	Less than 100	Less than 200	Less than 350
Medium	28 – 32 µg/m ³	More than 100	High	High	Medium	Low	Low
		10 – 100	High	Medium	Low	Low	Low
		1 – 10	High	Medium	Low	Low	Low
	24 – 28 µg/m ³	More than 100	High	Medium	Low	Low	Low
		10 – 100	High	Medium	Low	Low	Low
		1 – 10	Medium	Low	Low	Low	Low
	Less than 24 µg/m ³	More than 100	Medium	Low	Low	Low	Low
		10 – 100	Low	Low	Low	Low	Low
		1 – 10	Low	Low	Low	Low	Low
	Greater than 32 µg/m ³	More than 10	High	Medium	Low	Low	Low
		1 – 10	Medium	Low	Low	Low	Low
	28 – 32 µg/m ³	More than 10	Medium	Low	Low	Low	Low
		1 – 10	Low	Low	Low	Low	Low
	24 – 28 µg/m ³	More than 10	Low	Low	Low	Low	Low
		1 – 10	Low	Low	Low	Low	Low
	Less than 24 µg/m ³	More than 10	Low	Low	Low	Low	Low
		1 – 10	Low	Low	Low	Low	Low
	Low	–	More than 1	Low	Low	Low	Low

Table A4: Sensitivity of the area to Human Health Impacts

Table A5 outlines the sensitivity of the area to ecological impacts.

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

Table A5: Area Sensitivity to Ecological Impacts

Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts. Table A6 outlines the risk category from demolition works.

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Medium
Medium	High	Medium	Low
Low	Medium	Low	Negligible

Table A6: Dust Category from Demolition

Table A7 outlines the risk category from earthworks.

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

Table A7: Dust Category from Earthworks

Table A8 outlines the risk category from construction activities.

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

Table A8: Dust Category from Construction

Table A9 outlines the risk category from Trackout.

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Low	Negligible
Low	Low	Low	Negligible

Table A9: Dust Risk Category from Trackout

Step 3

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

Step 4

Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'. This has been described as negligible within this report to provide continuity between assessment terminologies.

The determination of significance relies on professional judgement and reasoning should be provided as far as practicable. This has been considered throughout the assessment when defining predicted impacts.

APPENDIX B

Air Quality Impact Assessment Methodology

This section details the methodology and criteria used to assess the operational phase assessment in conjunction with EPUK-IAQM guidance.

The proposed development includes sensitive land uses. As such, the proposed development has the potential to introduce the poor quality of air in the area and worsen the current local air quality.

Criteria has been used; based upon the guidance provided within the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) guidance 'Land-Use Planning and Development Control: Planning for Air Quality'.

A screening assessment has been undertaken to understand whether a simple or detailed assessment is required. A simple assessment relies on published information, without the quantification of impacts. A detailed assessment is completed with the aid of dispersion modelling to predict the concentrations at the development site and surrounding area.

Stage 1 Criteria

Initially the development is screened against stage 1 criteria as shown in Table B1.

Criteria to Proceed to Stage 2
If any of the following apply: 10 or more residential units or a site area of more than 0.5 ha more than 1,000 m ² of floor space for all other uses or a site area greater than 1 ha
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.

Table B1: Stage 1 Criteria

If the development contains any of the criteria shown in Row A of Table B1, in combination with any parameter of Row B, a Stage 2 screening assessment is required.

Stage 2 Criteria

Table B2 shows the screening criteria used to trigger an air quality assessment (Stage 2). Exceeding this criterion does not automatically lead to the requirement of a detailed assessment. 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.

The development will:	Indicative Criteria to Proceed to an Air Quality Assessment
1. Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans)	A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere. ¹
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.
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 there is a risk of impacts at relevant receptors. NB. this includes combustion plant associated with standby emergency generators (typically associated with centralised energy centres) and shipping.	Typically, any combustion plant where the single or combined NO _x emission rate is less than 5 mg/sec* is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion. In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.

NOTES:

* As a guide, the 5 mg/s criterion equates to a 450 kW ultra low NO_x gas boiler or a 30 kW CHP unit operating at <95 mg/Nm³. Users of this guidance should quantify the NO_x mass emission rate from the proposed plant, based on manufacturers' specifications and operational conditions.

Table B2: Indicative Criteria for Requiring an Air Quality Assessment

Frough Limited

233 HIGH STREET, UXBRIDGE

Air Quality Assessment

The information contained within this report and any appendices or supporting information provided are to be treated as confidential.



Independent, multidisciplinary engineering
and environmental consultants

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