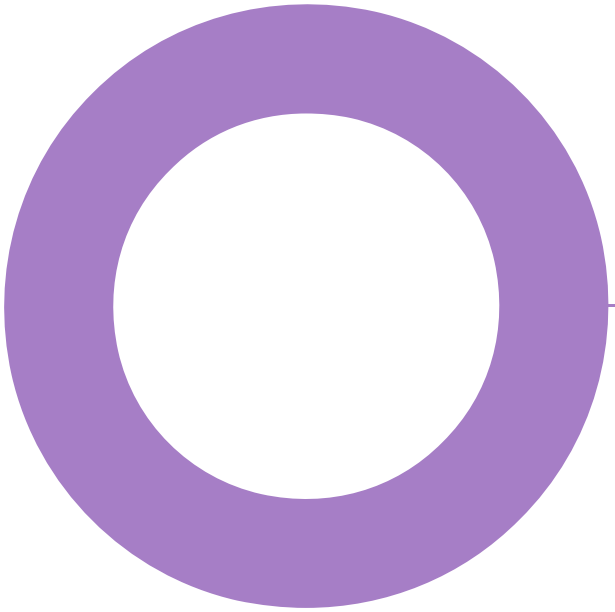
HOARE LEA

Windrush Industrial Park, Witney. West Oxfordshire.

Canmoor Properties Limited.

AIR QUALITY
AIR QUALITY ASSESSMENT

REVISION 02 – 09 FEBRUARY 2024



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	31/01/2024	First Draft	TB	OP/RH	CE
01	01/02/2024	First Issue	TB	RH	RH
02	09/02/2024	Second Issue	RH	CE	CE

Project number: 34/22435
Document reference: 3422435-HLE-RP-AQ-Windrush Industrial Park Witney-Rev02.docx

Contents.

Executive Summary.

Hoare Lea have been commissioned by Hale Architecture on behalf of Canmoor Properties Limited to undertake an Air Quality Assessment to support the planning application for the proposed demolition of the existing manufacturer building and redevelopment comprising of seven units located within Windrush Industrial Park, Witney, OX29 7DZ (the 'Application Site').

The proposal is for the development of 7 new light industrial/warehouse units with ancillary office space, associated parking and service yards with E(g)iii (industrial processes), B2 (general industrial) and B8 (storage and distribution) classification of uses (the 'Proposed Development').

The baseline assessment has shown that the Application Site is not located within or near an Air Quality Management Area (AQMA). There were no exceedances of the annual mean Nitrogen Dioxide (NO_2) Air Quality Objectives (AQO) or the indicative threshold of 60 µg/m^3 for the 1-hour mean NO_2 AQO measures at passive diffusion tube monitoring locations within 3 km of the Application Site in the baseline year of 2022.

A review of the Defra predicted background concentrations indicates that there are no likely exceedances of the annual mean NO_2 or Particulate Matter (PM_{10} and $PM_{2.5}$) AQOs within the 1 km by 1 km grid square that the Application Site falls within.

The impacts of demolition and construction work on dust soiling and ambient fine particulate matter concentrations have been assessed and appropriate mitigation measures have been recommended. Provided these mitigation measures are implemented and included within a dust management plan, for example through a planning condition, the residual impacts from the construction phase are considered to be not significant.

The traffic generated by the Proposed Development was supplied by SLR Consulting and has been screened against the criteria set-out in the Environmental Protection United Kingdom (EPUK) and Institute of Air Quality Management (IAQM) planning guidance to determine the need for a detailed assessment. This screening assessment has shown that the potential impact of additional road traffic on local air quality is considered insignificant and a detailed assessment is not required.

The energy strategy for the Proposed Development is all electric, utilising zero combustion emission technologies. As no combustion sources are proposed during normal operation, no local air quality impacts are anticipated and a detailed assessment of impacts of combustion emissions from the energy plant has been screened out of this assessment.

A qualitative Site Suitability Assessment has shown that pollutant concentrations are in compliance with the 1-hour mean and annual mean NO_2 AQOs and therefore, the Application Site is considered suitable for Eg(iii), B2 and B8 use without mitigation.

Based on the assessment results, the Application Site is considered suitable for the Proposed Development without the inclusion of mitigation, air quality should not be considered as a constraint to the planning consent and the Proposed Development conforms to the principles of the National Planning Policy Framework Plan and the West Oxfordshire Local Plan 2031.

1. Introduction.

Hoare Lea have been commissioned by Hale Architecture on behalf of Canmoor Properties Limited to undertake an Air Quality Assessment to support the planning application for the proposed demolition of the existing manufacturer building and redevelopment comprising of seven units located within Windrush Industrial Park, Witney, OX29 7DZ (the 'Application Site').

1.1 Proposed Development.

The proposal is for the development of 7 new light industrial/warehouse units with ancillary office space, associated parking and service yards with E(g)iii (industrial processes), B2 (general industrial) and B8 (storage and distribution) classification of uses (the 'Proposed Development'). Access to the Application Site will be via Windrush Park Road.

The energy strategy for the Proposed Development is all electric, utilising zero combustion emission technologies. As no combustion sources are proposed during normal operation, no local air quality impacts are anticipated and a detailed assessment of impacts of combustion emissions from the energy plant has been screened out of this assessment.

The proposed ventilation strategy will utilise purge ventilation. The warehouse spaces will be naturally ventilated.

1.2 Application Site Description and Location.

The Application Site is located within West Oxfordshire District Council (WODC) administrative area at the approximate National Grid Reference (NGR): X 433300 Y 210300. The Application Site is bound by a car park and Witney Mills Bowls Club to the east; industrial buildings and Abbott Laboratories to the south; Westwood Road and industrial buildings to the west and; Windrush Park Road to the north with industrial and commercial buildings thereafter.

The Application Site is currently developed and houses the existing furniture manufacturer, Condell Furniture Ltd.

Figure 1 illustrates the location of the Application Site.

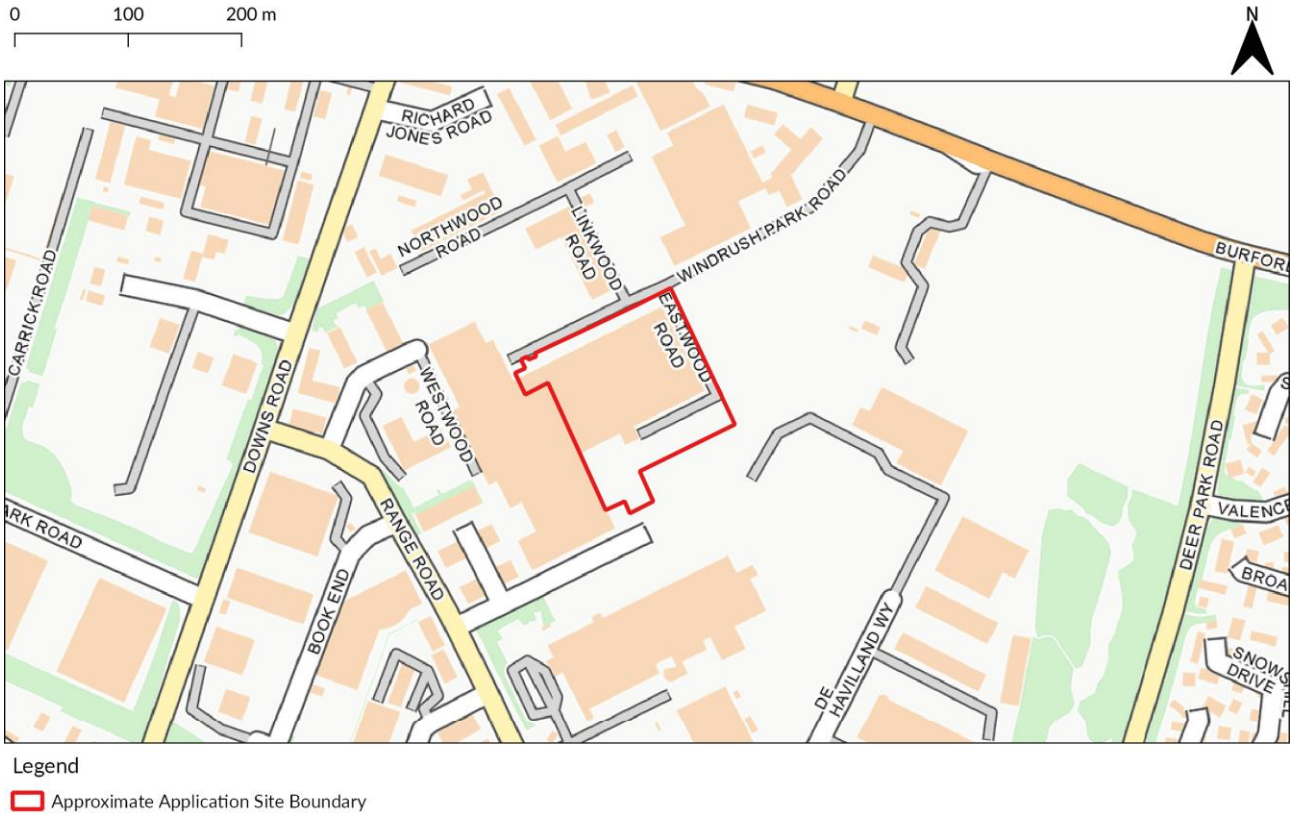


Figure 1: Location of the Application Site. Contains OS Data © Crown Copyright and Database rights 2023.

1.3 Scope of Assessment.

An email detailing the proposed methodology for the Air Quality Assessment was provided to WODC on the 26th of January 2024. A response was received on 7th February 2024. A copy of the correspondence with WODC Environmental Health Officer (EHO) has been included in Appendix 1.

A summary of the scope of the assessment includes:

- Review of National and Local Policy;
- Determination of baseline scenario, using WODC monitoring data and Department for Environmental, Food and Rural Affairs (Defra) predicted background concentrations;
- Assessment of potential air quality impacts during the construction phase;
- Assessment of potential air quality impacts during the operational phase;
- An assessment of the suitability of the Application Site for its proposed E(g)iii, B2 and B8 use; and
- Identification of required mitigation measures.

2. Legislation, Policy and Guidance Documents.

2.1 Air Quality Strategy and Local Air Quality Management.

The Environment Act 1995 (Part IV)[1] requires the Secretary of State to publish an air quality strategy and local authorities to review and assess the quality of air within their boundaries. The latter has become known as Local Air Quality Management (LAQM).

The Air Quality Strategy[2] provides the policy framework for local air quality management and assessment in the UK. It sets out air quality standards and objectives for key air pollutants. These standards and objectives are designed to protect human health and the environment. The Strategy also sets out how the different sectors of industry, transport and local government, can contribute to achieving these Air Quality Objectives (AQOs).

Local authorities are required to identify whether the AQOs have been, or will be, achieved at relevant locations, by the applicable date. If the AQOs are not achieved, the authority must declare an Air Quality Management Area (AQMA) and should prepare an action plan within 12 months. An action plan must identify appropriate measures and policies that can be introduced in order to work towards achieving the AQO(s).

The AQOs set out the extent to which the Government expects the standards to be achieved by a certain date. They take account of economic efficiency, practicability, technical feasibility and timescale. The AQOs for use by local authorities are prescribed within the Air Quality (England) Regulations 2000[3], and the Air Quality (England) (Amendment) Regulations 2002[4].

The AQOs for Nitrogen Dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$) are set out in Table 1. The AQOs for NO_2, PM_{10} and $PM_{2.5}$ were to have been achieved by 2005, 2004 and 2020 respectively and continue to apply in all future years thereafter.

The Environment Act 2021[5] acts as the UK's new framework of environmental protection and came into force on 1st April 2022. With regard to air quality, the Environment Act establishes a legally binding duty on government to bring forward at least two new air quality targets in secondary legislation. This was implemented through the Environmental Improvement Plan[6] which outlines new $PM_{2.5}$ targets for future years. These are a long term target of 10 µg/m^3 by 2040 and an interim target of 12 µg/m^3 by 31st January 2028. These targets are expected to focus on reducing concentrations of, and exposure to, $PM_{2.5}$.

Additionally, a new Air Quality Strategy has been published in April 2023 which sets out a framework which should be followed by local authorities in suport of Defra's long term air quality goals incldluing new $PM_{2.5}$ targets[7].

Table 1: Air Quality Objectives for NO_2, PM_{10} and $PM_{2.5}$

Pollutant	Time Period	Objective
Nitrogen Dioxide (NO_2)	1-hour Mean	200 µg/m^3 Not to be exceeded more than 18 times a year
	Annual Mean	40 µg/m^3
Fine Particles (PM_{10})	24-hour Mean	50 µg/m^3 Not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m^3
Fine Particles ($PM_{2.5}$) *	Annual Mean	20 µg/m^3
Notes: Measured gravimetrically *The time period in LAQM.TG(22) states "Work towards reducing emissions/concentrations of fine particulate matter ($PM_{2.5}$)"		

The AQOs apply at locations where members of the public are likely to be regularly present and exposed over the averaging period of the AQO. Examples of where the annual mean AQOs should apply are provided in the Local Air Quality Management Technical Guidance (LAQM.TG(22))[8], and include: building façades of residential

properties, schools, hospitals. The annual mean AQOs are not relevant for the building façades of offices or other places of work where members of the public do not have regular access, kerbsides or gardens.

The 24-hour mean AQO for PM_{10} is considered to apply at the same locations as the annual mean AQO, as well as in gardens of residential properties and at hotels.

The 1-hour mean AQO for NO_2 also applies wherever members of the public might regularly spend 1-hour or more, including outdoor eating locations, pavements of busy shopping streets, carparks and bus stations which are not fully enclosed. The 1-hour mean AQO does not apply at kerbside sites where the public do not have regular access.

2.2 EU Limit Values.

The European Union has also set limit values for NO_2, PM_{10} and $PM_{2.5}$; these are legally binding and have been implemented into English legislation by The Air Quality Standards Regulations 2010[9] and The Air Quality Standards (Amendment) Regulations 2016[10].

The limit values for NO_2, PM_{10} and $PM_{2.5}$ are the same as the English objectives (given in Table 1), but applied from 2010 for NO_2, 2005 for PM_{10} and 2015 for $PM_{2.5}$. The limit values apply at all locations (apart from where the public does not have access, where health and safety at work provisions apply and on the road carriageway).

2.3 Statutory Nuisance Legislation.

Part III of the Environmental Protection Act (EPA) 1990 (as amended)[11] contains the main legislation on Statutory Nuisance and allows local authorities and individuals to take action to prevent a statutory nuisance. Section 79 of the EPA defines, amongst other things, smoke, fumes, dust and smells emitted from industrial, trade or business premises so as to be prejudicial to health or a nuisance, as a potential Statutory Nuisance.

Fractions of dust greater than 10 μm (i.e. greater than PM_{10}) in diameter typically relate to nuisance effects as opposed to potential health effects and therefore are not covered within the UK Air Quality Strategy. In legislation there are currently no numerical limits in terms of what level of dust deposition constitutes a nuisance.

2.4 Clean Air Strategy.

The Clean Air Strategy (CAS)[12], published in 2019, sets out the Government's proposals aimed at delivering cleaner air in England, and also indicates how devolved administrations intend to make emissions reductions. It sets out the comprehensive action that is required from across all parts of government and society to deliver clean air.

2.5 Building Regulations.

The Building Regulations help to ensure that new buildings, conversions, renovations and extensions (domestic or commercial) will be safe, healthy and high performing. Detailed regulations cover specific topics including structural integrity, fire protection, accessibility, energy performance, acoustic performance, protection against falls, electrical and gas safety. Part F of the Building Regulations (2021)[13] provides guidance for indoor air quality and the pollutant concentrations that must not be exceeded in both buildings for dwellings and non-dwellings.

2.6 Planning Policy.

2.6.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2023[14] sets out planning policy for England. It includes advice on when air quality should be a material consideration in development control decisions. Relevant sections are set out below:

> Paragraph 8: *"Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives): […]*

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

Paragraph 55: *"Local planning authorities should consider whether otherwise unacceptable development could be made acceptable through the use of conditions or planning obligations. Planning obligations should only be used where it is not possible to address unacceptable impacts through a planning condition."*

Paragraph 109: "*The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making."*

Paragraph 180*: "Planning policies and decisions should contribute to and enhance the natural and local environment by: […]*

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

Paragraph 191: *"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."*

Paragraph 192: *"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."*

Paragraph 194 *"The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities."*

The NPPF is supported by Planning Practice Guidance (PPG)[15].

The PPG states that:

Paragraph 001 (Reference ID: 32-001-20191101): *"Defra carries out an annual national assessment of air quality using modelling and monitoring to determine compliance relevant Limit Values. It is important that the potential impact of new development on air quality is taken into account in planning where the national assessment indicates that relevant limits have been exceeded or are near the limit or where the need for emissions reductions has been identified."*

Paragraph 002 (Reference ID: 32-002-20191101): *"Plans may need to consider ways in which the development could be made appropriate in locations where air quality is or is likely to be a concern, and not give rise to unacceptable risks from pollution. This could, for example entail identifying measures for offsetting the impact on air quality arising from new development including supporting measures in an air quality action plan or low emissions strategy where applicable."*

Paragraph 005 (Reference ID: 32-005-20191101): *"Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and / or breach legal obligations (including those relating to the conversation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity."*

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

Paragraph 007 (Reference ID: 32-007-20191101): *"Assessments need to be proportional 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. The scope and content of supporting information is best discussed and agreed between the local planning authority and applicant before it is commissioned."*

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

Paragraph 008 (Reference ID: 32-008-20191101): *"Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact."*

2.7 Local Policy.

2.7.1 West Oxfordshire local Plan 2031

The West Oxfordshire Local Plan 2031[16] was formally adopted in 2018. It sets out the vision for the district in 2031 and provides policy framework in order to achieve this vision. It should be noted that an updated new Local Plan is also being prepared. The new Local Plan will run until 2041. Currently, the new Local Plan in its consultation phase. A review of the West Oxfordshire Local Plan 2031 indicated that the following policies are relevant to this air quality assessment.

Policy OS3 Prudent use of natural resources

"All development proposals (including new buildings, conversions and the refurbishment of existing building stock) will be required to show consideration of the efficient and prudent use and management of natural resources, including:

{…} minimising waste and making adequate provision for the re-use and recycling of waste; and causing no deterioration and, where possible, achieving improvements in water or air quality

{…}"

Policy T4 Parking Provision

"The Council will work with partners to provide, maintain and manage an appropriate amount of off-street public car parking, particularly to support our town and village centres and to address issues of congestion and air quality.

{…}"

Policy EH8 Environmental Protection

"Proposals which are likely to cause pollution or result in exposure to sources of pollution or risk to safety, will only be permitted if measures can be implemented to minimise pollution and risk to a level that provides a high standard of protection for health, environmental quality and amenity. The following issues require particular attention:

Air quality

The air quality within West Oxfordshire will be managed and improved in line with National Air Quality Standards, the principles of best practice and the Air Quality Management Area Action Plans for Witney and Chipping Norton. Where appropriate, developments will need to be supported by an air quality assessment.

{…}"

Policy EH3 Biodiversity and Geodiversity

"The biodiversity of West Oxfordshire shall be protected and enhanced to achieve an overall net gain in biodiversity and minimise impacts on geodiversity, including by:

{…} requiring a Habitats Regulations Assessment to be undertaken of any development proposal that is likely to have a significant adverse effect, either alone or in combination, on the Oxford Meadows SAC, particularly in relation to air quality and nitrogen oxide emissions and deposition

{…}"

2.7.2 Local Transport and Connectivity Plan 2022-2050

The Local Transport and Connectivity Plan 2022-2050[17] was formally adopted in 2022 and covers the entire Oxfordshire County Council region which includes West Oxfordshire. The Local Transport and Connectivity Plan 2022-2050 outlines a clear vision to deliver net zero Oxfordshire transport and travel system, which will allow the county to thrive whilst helping to protect the environment. A review of the Local Transport and Connectivity Plan 2022-2050 indicated that the following policies are most relevant to this air quality assessment.

"Policy 1

- *We will develop, assess and prioritise transport schemes, development proposals and policies according to the following transport user hierarchy:*
- *Walking and wheeling (including running, mobility aids, wheelchairs and mobility scooters)*
- *Cycling and riding (bicycles, non-standard cycles, e-bikes, cargo bikes, e-scooters and horse riding)*
- *Public transport (bus, scheduled coach, rail and taxis)*
- *Motorcycles*
- *Shared vehicles (car clubs and carpooling)*
- *Other motorised modes (cars, vans and lorries)*

Policy 28

a) *Continue to implement the Zero Emission Zone in Oxford.*
b) *Investigate CAZ and ZEZ schemes for other parts of Oxfordshire where traffic emissions are contributing significantly to air pollution problems.*

Policy 29

a) *Work in association with our district councils to integrate the Oxfordshire Electric Vehicle Infrastructure Strategy into the planning process, ensuring that new developments and infrastructure make appropriate future-proofed provision for EV charging infrastructure. {…}*

Policy 31

a) *Undertake Network management as part of an integrated approach, utilising emerging technologies to maximise its ability to tackle congestion issues in the county.*
b) *Continue to work closely with all stakeholders, partners and communities to minimise the adverse impact of disruptions on the entire road network within Oxfordshire and beyond.*
c) *Balance the needs of all network users, whilst promoting and prioritising walking, cycling and public transport at every opportunity."*

2.7.3 Local Air Quality Management in WODC.

As detailed in the latest WODC Annual Status Report[18] (ASR) 2023, WODC have declared two AQMAs within the administrative area. Both AQMAs namely, Chipping Norton AQMA and Witney AQMA, were declared in 2005 for exceedances of the annual mean NO_2 AQO. The Application Site does not fall within either AQMA. WODC previously implemented an Air Quality Action Plan[19] (AQAP) containing measures aimed at improving local air quality within the district. The actions in the AQAP have been focused around nine topics:

- HGV Routing;
- Addition funding and regional prioritisation;

- Continuous Monitoring;
- Establish a steering group to monitor the progress of the action plan;
- Consultation with key stakeholders such as public transport operators;
- Promotion of active transport methods;
- Implementation of county bus strategy;
- Information on improving air quality; and,
- Managing parking to reduce traffic congestion.

2.8 Assessment Guidance and Standards.

The primary guidance documents consulted in undertaking this assessment are detailed below.

2.8.1 Defra Local Air Quality Management Technical Guidance

Defra's LAQM.TG(22) was published for use by local authorities in their LAQM review and assessment work. The document provides key guidance in aspects of air quality assessment, including screening, use of monitoring data, and use of background data that are applicable to all air quality assessments.

2.8.2 EPUK and IAQM 'Air Quality Guidance for Planning'

Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have together published guidance (EPUK and IAQM planning guidance)[20] to help ensure that air quality is properly accounted for in the development control process. It clarifies when an air quality assessment should be undertaken, what it should contain, and how impacts should be described and assessed including guidelines for assessing the significance of impacts.

2.8.3 IAQM 'Construction and Demolition Dust Guidance'

Guidance on the assessment of dust from demolition and construction has been published by the IAQM (IAQM construction guidance)[21]. The guidance provides a methodology to determine the dust emission magnitude and provides a series of matrices to determine the risk magnitude of potential dust sources associated with construction activities. This allows for the identification of appropriate mitigation measures that are defined within further IAQM guidance.

3. Methodology of Assessment.

3.1 Consultation.

The approach to the assessment, as described in section 1.3, an email detailing the proposed methodology for the Air Quality Assessment was provided to WODC EHO on the 26th of January 2024 and a response was received on 7th February 2024. A copy of the correspondence with WODC has been included in Appendix 1.

3.2 Existing Air Quality in the Study Area.

A baseline air quality review was undertaken to determine the existing air quality in the vicinity of the Application Site.

This desk-top study was undertaken using the following sources:

- Air quality data for WODC, including a review of the WODC[18] air quality reports and local monitoring data;
- The UK Pollutant Release and Transfer Register[22];
- Background pollution maps from Defra's LAQM website[23];
- Pollution Inventory from the Environment Agency[24]
- The UK Ambient Air Quality Interactive Map[25]; and
- Ordnance Survey data and Aerial photography from Google Maps.

3.3 Construction Phase Impacts.

3.3.1 Construction Dust Assessment

The assessment of construction dust impacts has been undertaken in line with the methodology outlined in the IAQM construction guidance. Activities on the proposed construction site have been divided into four types to reflect their different potential impacts. These are:

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

The risk of dust emissions has been assessed for each activity with respect to:

- Potential loss of amenity due to dust soiling;
- The risk of health effects due to a significant increase in exposure to PM_{10}; and
- The risk of ecological impacts due to a significant increase in exposure to PM_{10}.

The first stage of the assessment involves screening to determine whether there are any sensitive receptors within the threshold distances defined by the IAQM construction guidance. A detailed assessment of the impact of dust from construction sites will be required where:

- A 'human receptor' is located within 250 m of the boundary of the Application Site or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the Application Site entrance;
- An 'ecological receptor' is located within 50 m of the boundary of the Application Site or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the Application Site entrance.

The magnitude of dust emission for each activity is determined on the basis of the guidance, indicative thresholds, information available relating to the project and expert judgement. The risk of dust effects arising is based upon the relationship between the dust emission magnitude and the sensitivity of the area. The risk of impact is then used to determine the mitigation requirements.

Descriptors for magnitude of impact and impact significance used in this assessment of construction phase dust are given in the guidance available online[21].

3.3.2 Construction Emissions Assessment

3.3.2.1 Construction Traffic Emissions Screening

The screening assessment has been undertaken with reference to the following EPUK and IAQM planning guidance indicative criteria:

- a change of Light Duty Vehicle (LDV) flows of more than 500 Annual Average Daily Traffic (AADT) (outside an AQMA); and/or
- a change of Heavy Duty Vehicle (HDV) flows of more than 100 AADT (outside an AQMA).

3.3.2.2 NRMM Emissions Screening

Non-Road Mobile Machinery (NRMM) refers to mobile machines, transportable industrial equipment or vehicles which are fitted with an internal combustion engine and not intended for transporting goods or passengers on roads. NRMM emissions have been screened following IAQM construction guidance.

3.4 Operational Phase Impacts.

3.4.1 Road Traffic Emissions Assessment

The screening assessment has been undertaken following the EPUK and IAQM planning guidance indicative criteria:

- a change of LDV flows of more than 500 AADT (outside an AQMA); and/or
- a change of HDV flows of more than 100 AADT (outside an AQMA).

Where these criteria are exceeded, a detailed assessment is required, although the guidance advises that "*the criteria provided are precautionary and should be treated as indicative*", and "*it may be appropriate to amend them on the basis of professional judgement*".

Where impacts can be screened out there is no need to progress to a more detailed assessment.

3.4.2 Site Suitability Assessment

An assessment has been undertaken to consider the Site Suitability which refers to the exposure of future occupants of the Proposed Development to existing air quality. The assessment of Site Suitability has been assessed qualitatively using monitoring data from the WODC ASR in combination with Defra predicted background concentrations.

As the Proposed Development is for E(g)(iii), B2 and B8 use, the 1-hour mean NO_2 AQO applies. Additionally, though not required for planning, the Building Regulations Part F (2021) states that the annual mean NO_2 AQO also applies at non-dwelling sites. Therefore, the annual mean NO_2 will also be considered.

3.5 Assessment of Significance.

3.5.1 Construction Dust

The IAQM construction guidance states that the primary aim of the construction phase risk assessment is to identify site specific mitigation that, once implemented, should ensure that there will be no significant effect. Therefore, the assessment has been used to determine an appropriate level of mitigation for the construction phase.

The determination of which mitigation measures are recommended include elements of professional judgement and the professional experience of the consultants preparing this report is set out in Appendix 2.

3.5.2 Operational Impacts

The EPUK and IAQM planning guidance has been used to assess the potential for significant impacts as a result of vehicle emissions from traffic associated with the Proposed Development. The focus of the guidance is to assess traffic emission impacts and advises on how to describe the air quality impacts and their significance.

3.5.3 Site Suitability Assessment

To determine the significance of predicted air quality impacts based upon a Site Suitability Assessment, the EPUK and IAQM planning guidance states:

"*Where the air quality is such that an air quality objective at the building façade is not met, the effect on residents or occupants will be judged as significant, unless provision is made to reduce their exposure by some means*."

4. Baseline Environment.

This section sets out the available information on air quality in the vicinity of the Application Site.

4.1 Local Air Quality Management Review and Assessment.

The Application Site is not located within or near an AQMA. There are however, two AQMAs within the WODC administrative area. The nearest AQMA is the Witney AQMA, located 2.3 km east, which was declared an AQMA in 2005 after there was found to be exceedances of the annual mean NO_2 AQO. The Witney AQMA in relation to the Application Site is illustrated in Figure 2.

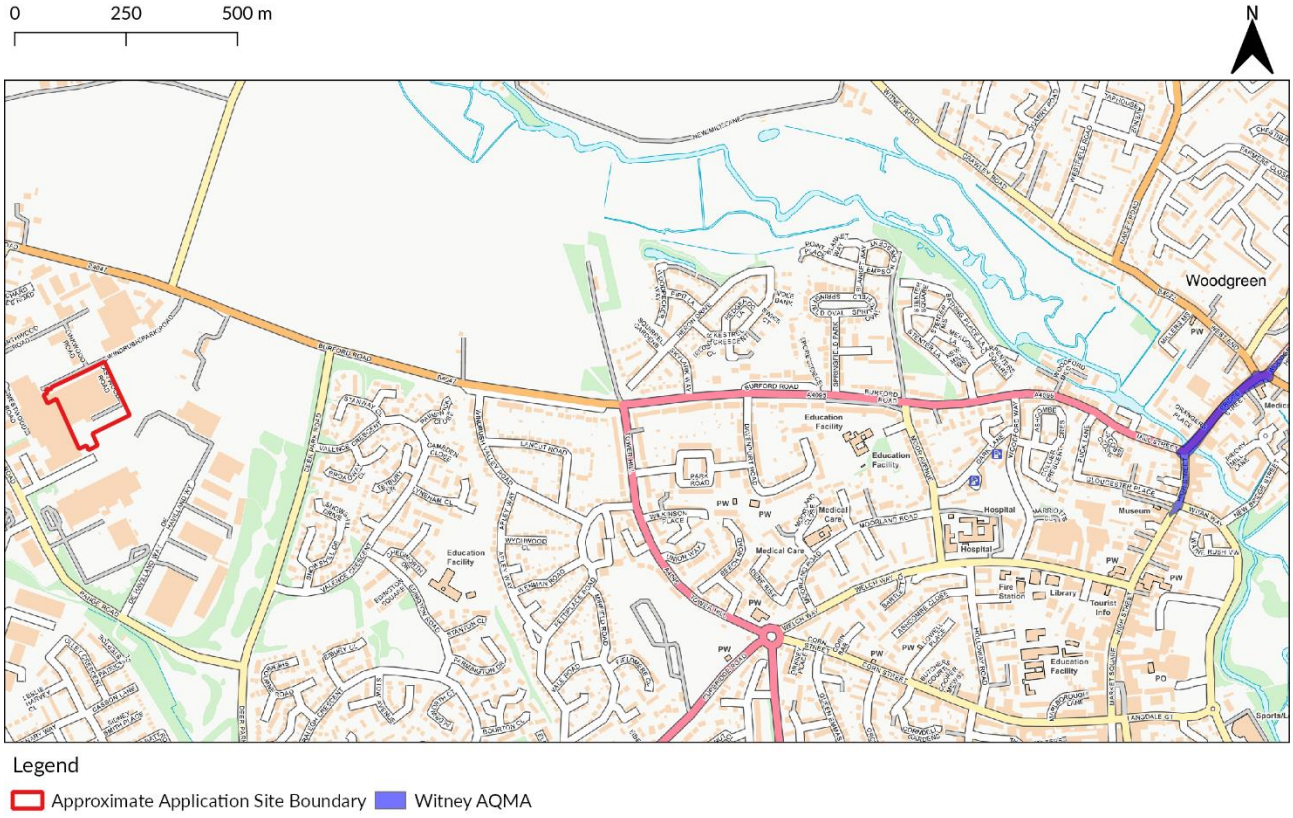


Figure 2: Witney AQMA in relation to the Application Site. Contains OS Data © Crown Copyright and Database rights 2023.

It should be noted that the pollutant concentrations recorded in 2020 and 2021 from the most recent WODC ASR are lower than previous years as a direct result of reduced traffic levels during the COVID-19 pandemic. As such the pollutant concentrations recorded in 2020 and 2021 are not considered to be representative of 'normal' air quality conditions. Monitoring data for 2022 is available for use as the latest year of representative monitoring data and as such, will be considered the baseline year. 2019 monitoring data will be presented within this section to provide comparison of the 2022 monitoring data to pre COVID-19 concentrations, in the event there is increase in pollutant concentrations as a result of a change in traffic movements.

4.2 Local Air Quality Monitoring.

WODC does not undertake automatic continuous monitoring within its administrative area, nor are there any nearby automatic monitoring stations from neighbouring local authorities. Therefore, automatic monitoring data has not been included within this assessment.

WODC operate 25 passive diffusion tubes to monitor NO_2 pollutant concentrations. A review of the most recent monitoring data available indicated that there are seven passive diffusion tube monitoring locations within 3 km of the Application Site. Table 2 details the monitoring results for the seven passive diffusion tube monitoring

locations for the most recent years available (2016-2022) and the passive diffusion tube monitoring locations are illustrated in Figure 3.

Table 2: Passive Diffusion Tube Monitoring Results

Site ID	Site Type	Distance (km) from site (approx.)	Annual Mean NO_2 Concentration (µg/m^3)						
			2016	2017	2018	2019	2020	2021	2022
NAS4	Roadside	2.3	33.8	34.4	31.9	33.9	26.2	26.9	26.5
NAS2	Roadside	2.5	-	**40.6**	**40.5**	37.1	27.5	31.8	30.5
NAS3	Roadside	2.5	**51.5**	**43.9**	**41.8**	**41.9**	32.2	35.1	32.6
NAS1	Roadside	2.5	**55.7**	**49.9**	**48.2**	**44.8**	36.8	37.6	36.1
NAS5	Roadside	2.6	-	33.9	35.5	33.1	25.9	28.4	29.7
NAS6	Roadside	2.6	-	33.9	34.4	35.5	26.6	29.9	27.9
NAS7	Roadside	2.6	-	35.8	34.5	34.3	27.0	28.0	26.3

Concentration in the WODC rounded to 1 d.p.
'Bold' Indicates exceedances of the annual mean NO_2 AQO
'-' Indicates no data available

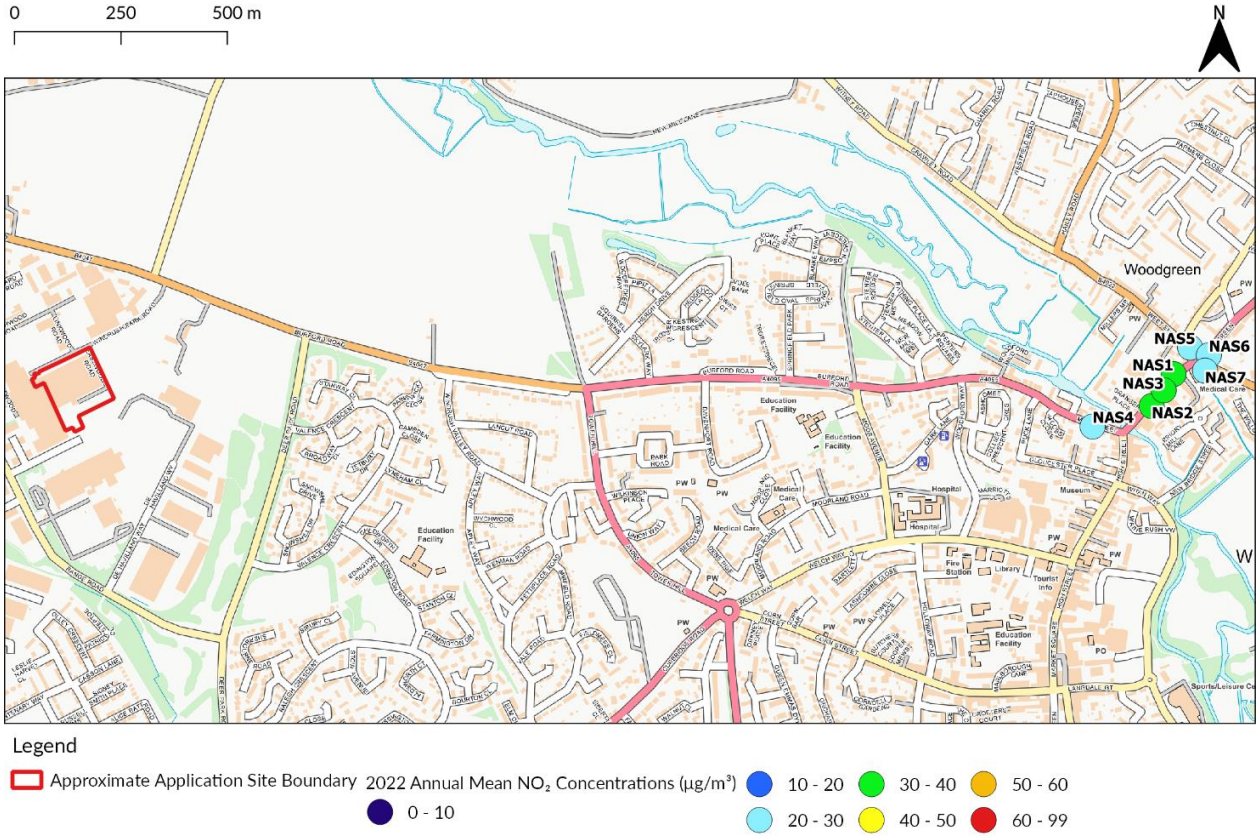


Figure 3: Passive Diffusion Tube Monitoring Locations within the vicinity of the Application Site. Contains OS Data © Crown Copyright and Database rights 2023.

As shown in Table 2 above, there were no exceedances of the annual mean NO_2 AQO monitored at passive diffusion tubes within 3 km of the Application Site in the baseline year of 2022.

An annual mean concentration of 60 µg/m^3 or above is used to indicate a possible exceedance of the 1-hour mean NO_2 AQO. In the baseline year of 2022, none of the passive diffusion tube locations, within 3 km of the Application Site, have recorded an exceedance of 60 µg/m^3 and therefore, no exceedance of the 1-hour mean NO_2 AQO is expected.

4.3 Industrial Pollution.

A desk-based review of potential industrial sources using the UK Pollutant Release and Transfer Register[22] and the Pollution Inventory from the Environment Agency[24] identified four significant industrial or waste management sources of air pollution within 2 km of the Application Site that are likely to affect the Application Site with regard to air quality. These are detailed within Table 3, indicating their potential impact.

Table 3: Industrial/Waste Management Sources of Air Pollution within 2 km of the Application Site from 2016 onwards.

Source Name	Source Type	Air Pollutant Release	Distance (km)
EDWARD JOHN FRASER EVANS & JOAN ELIZABETH EVANS	A11 : Household, Commercial & Industrial Waste Transfer Station	Emissions to air of relevant pollutants are controlled by an environmental permit (ZP3299EW) and as such are not expected to be significant	0.2
UBICO LIMITED	S0814 No 14: 75kte Materials Recycling Facility	Emissions to air of relevant pollutants are controlled by an environmental permit (FB3602KK) and as such are not expected to be significant	0.5
STRAINGE; STRAINGE	Intensive Farming	Emissions to air of relevant pollutants are controlled by an environmental permit (EPR/FP3537MB) and as such are not expected to be significant. Given that the source type is intensive farming, impacts from odour has also been considered. However, given that this site is 1.4 km south of the Application Site, it is unlikely that odour will be an issue.	1.4
Dorothy Jean Ebworth	A11 : Household, Commercial & Industrial Waste Transfer Station	Emissions to air of relevant pollutants are controlled by an environmental permit (YP3299EV) and as such are not expected to be significant	2.0

4.4 Defra Predicted Concentrations.

The background concentrations have been obtained from the national maps published by Defra[23]. These estimated concentrations are produced on a 1 km by 1 km grid basis for the whole of the UK. The Application Site falls into grid square X 433500 Y 210500 and the predicted concentrations for this grid square for NO_2, PM_{10} and $PM_{2.5}$ are provided in Table 4 for 2022, the most recent year with available monitoring data, for 2024, the current year and for 2025, the earliest anticipated opening year for the Proposed Development.

Table 4: Predicted Background Concentrations for grid square **X 433500 Y 210500**

Year	Predicted Background Concentration (µg/m^3)		
	NO_2	PM_{10}	$PM_{2.5}$
2022	8.7	14.6	9.1
2024	8.3	14.3	8.8
2025	8.1	14.2	8.7
Concentrations rounded to 1 d.p.			

As shown in Table 4, background concentrations are well below the relevant AQOs for all pollutants.

4.5 Summary of Background Data.

The Application Site is not located within an AQMA. The nearest AQMA is the Witney AQMA located 2.3 km east of the Application Site.

There is no automatic monitoring station in operation within WODC or within the vicinity of the Application Site.

There were no exceedances of the annual mean NO_2 AQO measured by passive diffusion tube monitoring locations, within the 3 km of the Application Site, in the baseline year of 2022.

There are four industrial source of air pollution within 2 km of the Application Site. These industrial sources, however, are not likely to affect the Application Site with regard to air quality.

Predicted Defra Background concentrations for pollutants NO_2, PM_{10} and $PM_{2.5}$ are below the relevant AQOs in 2022, the baseline year, 2024 the current year and 2026, the anticipated opening year of the Proposed Development.

5. Construction Phase Assessment.

The potential for air quality impacts during the construction of the Proposed Development are assessed in this section.

5.1 Construction Phase Dust Assessment.

The risk of dust impacts is based on the potential dust emissions magnitude and the sensitivity of the area. These two factors are then combined to determine the risk of dust impacts with no mitigation applied. In the absence of any site-specific information, a higher risk category has been applied to represent a worst-case scenario.

5.1.1 Assessment Screening

There are 'human receptors' within 250 m of the Application Site but no designated habitat sites within 50 m of the Application Site boundary or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the Application Site entrance.

The closest ecological receptor to the Application Site is Maggots Grove, classified as an Ancient Woodland, located 850 m to the north.

Therefore, an assessment of construction dust at human receptors is required, but an assessment of construction at ecological receptors can be screened out from this assessment.

5.1.2 Potential Dust Emission Magnitude

The potential magnitude of dust emissions from demolition, earthworks, construction and trackout have been assessed, as identified in Table 5.

Table 5: Predicted Magnitude of Dust Emissions

Activity	Magnitude	Justification
Demolition	Large	The volume of demolition is expected to be >75,000 m^3 based on the latest available site plans PL-1004 and satellite imagery. Demolition activities are expected to be undertaken up to 12 m above ground level. The materials for the existing building are predominantly brick and concrete which are both considered to be dusty materials. Therefore, the demolition volume and existence of dust generating material has mean that the magnitude of demolition has been classed as large.
Earthworks	Medium	The Soil type at the Application Site was reviewed using the application Soilscape[26] which classified the soil type as 'clayey, some loamy' which can be a potentially dusty soil type. The Application Site is generally flat. The total site area for earthworks is ~21,075 m^2 which classifies the dust emission magnitude as medium. As such, the dust emission magnitude with regards to earthworks has been classed as medium.
Construction	Medium	The volume of construction is estimated to be >75,000 m^3 based on the latest available site plans PL-1004. The construction materials are expected to primarily involve metal cladding. Concrete will be used around the perimeter and for the car parking spaces along with block paving. Despite the construction volume, the predominant use of low potential dusty materials has meant that the dust emission magnitude regarding construction has been classed as medium.
Trackout	Small	Outward trips of HDVs during the construction phase were not available at the time of writing this report. A desk-based review of the Application Site using QGIS, satellite imagery shows the potential for unpaved roads in the Application Site <50 m. Additionally, the soil type analysed using the Soilscape application classified the soil as 'loamy' which is a potentially dusty soil type. The unpaved roads and soil type therefore result in the dust magnitude regarding trackout to be classed as small.
*Drawing number: PL-1004 Proposed Hard and Soft Landscape (Revision 00), 18/01/2024 – Hale Architecture		

5.1.3 Sensitivity of the Study Area

The sensitivity of the area takes into account the following factors:

– The specific sensitivities of receptors in the area;
– The proximity and number of those receptors;
– In the case of PM_{10}, the local background concentration; and
– Site-specific factors, such as whether there are natural shelters, such as trees or other vegetation, to reduce the risk of wind-blown dust.
–

The IAQM distance bands for sensitivity are illustrated relative to the Application Site in Figure 4.

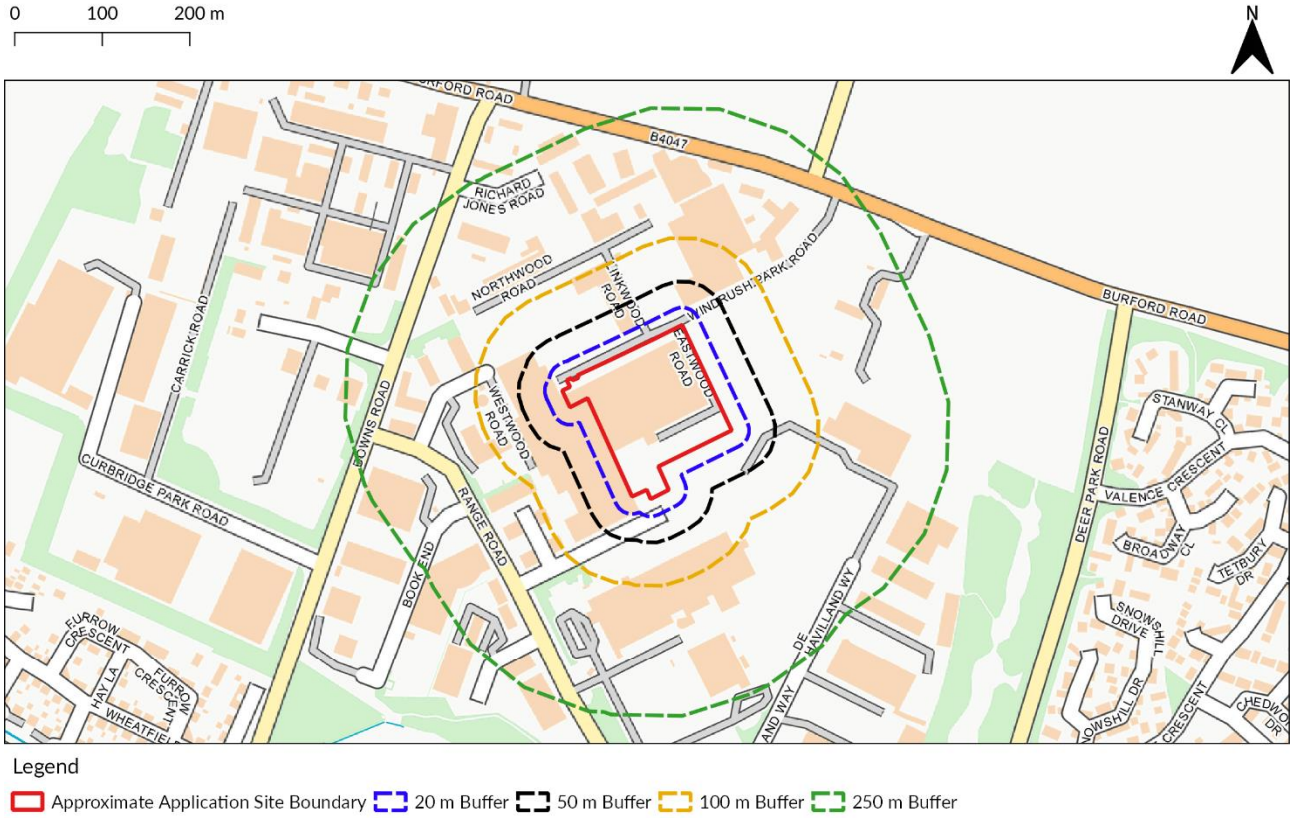


Figure 4: IAQM Demolition and Construction Dust Distance band criteria from the Application Site boundary. Contains Ordnance Survey Data © Crown Copyright 2023.

The sensitivity of the area and the factors considered are detailed in Table 6.

Table 6: Sensitivity of the Area

Sensitivity Type	Factors	Sensitivity of Area	
		On – Site Activity	Trackout
Dust Soiling	As shown in Figure 4, there are between 10-100 high sensitivity receptors within 20 m of the Application Site Boundary which includes an industrial and commercial buildings with their associated parking spaces. Other receptors up to 250 m will also be considered within this assessment. Therefore, the sensitivity of the area surrounding the Application Site has been classified as medium sensitivity with regards to dust soiling for on-site activity. For trackout, the distances are measured from the side of the roads used by construction traffic. There are 10-100 medium sensitivity receptors within 20 m of roads up to 200 m of the anticipated routes used by construction traffic for medium magnitude sites. Therefore, the sensitivity of the area surrounding the Application Site has been classified as medium with respect to dust soiling for trackout.	Medium	Medium
Human Health	Using the Defra predicted background concentrations as a worst-case scenario, the PM_{10} concentration is 14.6 $\mu g/m^3$. For onsite activities, there are between 10-100 high sensitivity receptors within 20 m of the Application Site Boundary which includes an industrial and commercial buildings with their associated parking spaces. Other receptors up to 250 m will also be considered within this assessment. As the PM_{10} is <24 $\mu g/m^3$, the sensitivity of the area to human health impacts is therefore considered low. For trackout, the distances are measured from the side of the roads used by construction traffic. There are 10-100 medium sensitivity receptors within 20 m of roads up to 200 m of the anticipated routes used by construction traffic for medium magnitude sites. Considering the Defra predicted background concentration for 2022 is 14.6 $\mu g/m^3$, the sensitivity of the area surrounding the Application Site is classified as low with respect to human health for trackout.	Low	Low

5.1.4 Risk of Dust Impacts

The outcomes of the assessments of potential magnitude of dust emissions and the sensitivity of the area are combined to determine the risk of impact. This risk is then used to inform the selection of appropriate mitigation. Table 7 details the risk of dust impacts for demolition, earthworks, construction and trackout activities.

Table 7: Summary of Potential Unmitigated Dust Risks

Potential Impact	Sensitivity	Demolition	Earthworks	Construction	Trackout
Magnitude		Large	Medium	Medium	Small
Dust Soiling Impacts	Medium	High Risk	Medium Risk	Medium Risk	Low Risk
Human Health Impacts	Low	Medium Risk	Low Risk	Low Risk	Negligible

5.2 Construction Phase – Vehicular Pollutants.

The Application Site is not located within or adjacent to an AQMA and therefore the higher screening criteria (i.e. 500 LDV and 100 HDV) would apply.

Information on traffic movements anticipated during construction works was unavailable for the completion of the Air Quality Assessment. However, the development quantum is not anticipated to result in a significant increase in movements above the criteria outlined in the EPUK and IAQM planning guidance. The duration of movements will be short-term in nature and are not considered further within the context of this assessment. Therefore, in accordance with the criteria presented within EPUK and IAQM planning guidance, additional road vehicle trips during the construction phase of the Proposed Development "*can be considered to have insignificant effects*" on air quality.

5.3 Construction Phase – Non-road Mobile Machinery.

Pollutants emitted by NRMM that may have the most significant potential effects on local air quality are particulate matter (PM_{10} and $PM_{2.5}$), and NO_x/NO_2. Typically, NRMM is associated with construction sites and, therefore there is a potential for NRMM emissions to adversely affect local air quality as a result of the Proposed Development.

Furthermore, the IAQM construction guidance states that "*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.*"

6. Operational Phase Assessment.

The potential for air quality impacts during the operation of the Proposed Development are assessed in this section.

6.1 Road Traffic Emissions Screening Assessment.

Initial road traffic data associated with the Proposed Development has been provided by SLR Consulting, the appointed Transport Consultants for the project. The total trip generation is dependent on the proposed end use of the Proposed Development (E(g)(iii), B2 and B8 use). Initial traffic data indicates that there will be a maximum 24-hour AADT increase of 482 LDVs and 148 HDVs on the local network as a result of the Proposed Development. Table 8 outlines the proposed vehicle trip generation for each use class.

Table 8: Proposed Vehicle Trip Generation

Land Use Class	Proposed LDV Trip Generation (AADT)	Proposed HDV Trip Generation (AADT)
E(g)(iii)	482	115
B2	205	115
B8	340	148

The proposed HDV AADT trip generation for all uses is above the indicative screening criteria of 100 AADT for outside of an AQMA. However, SLR Consulting have confirmed that only a section of Burford Road, which is located between Windrush Park Road (the site access) and Downs Road, will experience a 24-hour HDV increase above the screening criteria. All other traffic flows are anticipated to split approximately 50% onto Downs Roads and 50% continuing west along Burford Road. As such, this is likely to decrease the proposed HDV trip generation to below the indicative screening criteria of 100 HDVs outside of an AQMA on all other road networks within the vicinity of the site.

Furthermore, as outline in Table 2 and Table 4, concentrations of NO_2 are measuring less than 75% from the nearest passive diffusion tube and the Defra predicted background NO_2 concentrations. For a 'slight' impact to be experienced at nearby sensitive receptors (Located west of the Proposed Development along Burford Road), a maximum % change in concentration relative to AQO's of between 6-10% is required, in line with the EPUK and IAQM planning guidance. Based on the information provided in Table 8, the increase in trip generation from the Proposed Development is unlikely to result in change in concentration above 6% before the proposed HDV AADT splits, and therefore, significant impacts at nearby sensitive receptors, are not anticipated.

Therefore, in accordance with the EPUK and IAQM planning guidance, the impacts on air quality from operational phase traffic generation are considered to be not significant and a detailed assessment is not required.

6.1.1 Potential Impacts at Bridge Street AQMA (Witney AQMA)

It has been confirmed by SLR that a small proportion of trips generate by the Proposed Development are to travel through the Witney AQMA. Table 9 shows a maximum 24 hour AADT increase of 45 LDV's through the AQMA, depending on the proposed end use. It is anticipated that HDV's will route away from the AQMA, to the A40 via the B4047 or Downs Road.

Furthermore, it should be noted that this does not take into account the net change from the existing operational site which results in fewer generated trips by the Proposed Development travelling through the Witney AQMA and therefore potential impacts at sensitive receptors are likely to be lower.

Table 9: Proposed Vehicle Trip Generation through Witney AQMA

Land Use Class	Proposed LDV Trip Generation (AADT)
E(g)(iii)	45
B2	19
B8	32

As such, in accordance with the EPUK and IAQM planning guidance, the impacts on air quality from operational phase traffic generation are considered to be not significant and a detailed assessment of impacts at the AQMA is not required.

6.2 Site Suitability Assessment.

This section presents a review of WODC monitoring data and mapped concentrations by Defra in the vicinity of the Application Site, for the purpose of identifying the suitability of the Application Site for E(g)(iii), B2 and B8 use and to identify any requirements for potential mitigation to be embedded into the Proposed Developments design.

As presented in Section 2.1, and in line with LAQM.TG(22), the 1-hour mean NO_2 AQO applies to the Proposed Development due to its proposed E(g)(iii), B2 and B8 use. Moreover, the Building Regulations Part F (2021) also applies at the Proposed Development, though not required for planning. As such, this section considers the annual mean and 1-hour mean NO_2 pollutant concentrations at the Application Site.

6.2.1 Predicted NO_2 Concentrations

A review of the annual mean NO_2 concentrations monitored within 3 km of the Application Site has been completed as part of the baseline review with recent monitoring results, presented in Table 2. As there are no automatic monitors within the vicinity of the Application Site, there is no data available on exceedances of the 1-hour mean NO_2 AQO. Therefore, the annual mean concentration of 60 µg/m^3 or above, which is often used to indicate a possible exceedance of the hourly mean NO_2 AQO, has been considered below.

Concentrations monitored at passive diffusion tube NAS4, located 2.3 km east near the Witney AQMA, is suitable for use as it represents a worst-case likely scenario of pollutant concentration experienced at the Proposed Development. NAS4 is classed as roadside and is located approximately 1.4 m from the closest road, the A4095, a major A-road. The Proposed Development, however, is set back approximately 200 m from the nearest major road, B4047, which connects to the A4095. Both the A4095 and B4047 are major source of road derived pollutants. As pollutant concentrations decrease with increased distance to the road, concentrations experienced at the Proposed Development are likely to be lower than at NAS4. In 2022, the monitored concentration at NAS4 was 26.5 µg/m^3, which equates to 66% of the AQO.

The passive diffusion tubes within 3 km of the Application Site monitored a maximum annual mean NO_2 concentration of 36.1 µg/m^3. Defra predicted background NO_2 concentrations at the Application Site is 14.6 µg/m^3. Both of these are below the indicative threshold of 60 µg/m^3, as such, the 1-hour mean NO_2 AQO is unlikely to be exceeded.

Following the guidance from the Building Regulations Part F (2021), assessment of the local air quality at non-dwelling development is required to comply with the annual mean NO_2 AQO. All representative local monitoring data and Defra predicted background concentrations shows compliance with the annual mean NO_2 AQO in the baseline year of 2022.

Therefore, NO_2 concentrations in the locale of the Proposed Development are considered to comply with the annual mean and 1-hour mean NO_2 AQO and the Application Site is considered suitable for Eg(iii), B2 and B8 use without the inclusion of mitigation.

6.2.2 Significance of Air Quality Impacts

To determine the significance of predicted air quality impacts based upon a Site Suitability assessment, such as that undertaken as part of this assessment, the EPUK and IAQM planning guidance states:

"*Where the air quality is such that an air quality objective at the building façade is not met, the effect on residents or occupants will be judged as significant, unless provision is made to reduce their exposure by some means.*"

With regards to the Proposed Development, the unmitigated impact significance associated with the Proposed Development has been predicted in accordance with the stated assessment methodology. The following factors have been considered when providing justification:

- The Proposed Development will not introduce any new receptor into an area of exceedance of the annual or 1-hour mean NO_2 AQOs based upon a review of NO_2 monitoring data and Defra predicted background concentrations within the development locale;

As no exceedances of the considered AQOs are predicted, mitigation measures are not required for the operational phase of the Proposed Development. As such, the overall effect is considered to be 'not significant'.

7. Mitigation.

7.1 Construction Phase.

To mitigate the potential impacts during the construction phase it is recommended that mitigation measures as detailed in the IAQM construction guidance are implemented. These mitigation measures have been carefully selected for the Proposed Development and are based upon the dust risk categories outlined in Table 7 of this report.

It is recommended that WODC approve a Dust Management Plan (DMP) prior to works commencing on site, and that this is implemented using an appropriately worded planning condition. Table 10 below details the measures that should be incorporated in the DMP. For general mitigation measures, which excludes those specifically targeted towards demolition, earthworks, construction and trackout (which are given towards the end of the table), high risk measures have been applied as these represent the highest risk category determined in Table 7. This approach is consistent with the IAQM construction guidance.

Table 10: Mitigation Measures

Issue	Mitigation Measure
Communications	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
	Display the head or regional office contact information.
Dust Management Plan	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real-time PM_{10} continuous monitoring and/or visual inspections.
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
	Make the complaints log available to the Local Authority when asked.
	Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book.
	Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.
Monitoring	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the Local Authority when asked. This should include regular dust soiling check of surfaces such as street furniture, cars, window sills within 100 m of the site boundary, with cleaning to be provided if necessary.
	Carry out regular site inspections to monitor compliance with the DMP, 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.

Issue	Mitigation Measure
	Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible, commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences.
Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
	Avoid site runoff of water or mud.
	Keep site fencing, barriers and scaffolding clean using wet methods.
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used cover as described below.
	Cover, seed or fence stockpiles to prevent wind whipping.
Operating vehicles/machinery and sustainable travel	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 unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where applicable).
	Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
	Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking and car-sharing)
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
	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	Avoid bonfires and burning of waste materials.
Demolition	Soft strip inside building before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
	Ensure effective water suppression is used during demolition activities. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is

Issue	Mitigation Measure
	needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
	Avoid explosive blasting, using appropriate manual or mechanical alternatives.
	Bag and remove any biological debris or damp down such material before demolition.
Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
	Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
	Only remove the cover in small areas during work and not all at once.
Construction	Avoid scrabbling (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.
	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.
Trackout	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being in continuous use.
	Avoid dry sweeping of large areas.
	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
	Record all inspections of haul routes and any subsequent action in a site log book.
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

Potential dust effects during the construction phase are considered to be temporary and short term in nature. The impacts are determined to be temporary as they will only potentially occur throughout the construction phase and short-term because these will only arise at particular times when certain activities and meteorological conditions combine to create the predicted level of magnitude.

However, with the application of the above dust control and mitigation measures, it is considered that impacts at all receptors will be 'not significant' in accordance with the IAQM construction guidance.

7.1.1 Construction Phase Road Traffic Emissions

Potential air quality impacts associated with construction phase road traffic emissions, principally HDV movements, have been screened out for further assessment with associated impacts on air quality predicted to result in an 'insignificant' effect. Therefore, mitigation measures are not considered to be required.

7.1.2 Construction Phase NRMM Emissions

In accordance with Part 4 of the IAQM construction guidance, all NRMM would need to adhere to the emissions standards for NO_2 and PM_{10} set out for NRMM. It is therefore considered the likely effects of construction plant on local air quality would be insignificant.

7.2 Operational Phase.

7.2.1 Road Traffic Emissions

Potential air quality impacts associated with operational phase development trips have been screened out from further assessment as '*the impacts [on air quality from operational phase movements] can be considered to have insignificant effects*' in accordance with the EPUK and IAQM planning guidance. Therefore, mitigation measures relating to air quality are not considered to be required.

7.2.2 Site Suitability Assessment

A review of WODC monitoring data in consideration of the Application Site, and mapped concentrations by Defra in the locale of the Application Site, indicates no likely exceedance of the annual and 1-hour mean NO_2 AQOs.

As no exceedances of any considered AQOs are predicted, this follows the 1st hierarchy principle of the EPUK and IAQM planning guidance to *'prevent and avoid'* exposure'. Therefore, no embedded mitigation into the Proposed Development design (in the form of mechanical ventilation, for example) is required and natural ventilation is possible from an air quality perspective.

8. Summary and Conclusions.

This report details the potential air quality impacts associated with the proposed demolition of the existing manufacturer building and the construction and operation of seven units located within Windrush Industrial Park, Witney, OX29 7DZ.

The findings of the assessment are as follows:

- The baseline assessment has shown that the Application Site is not located within or near an AQMA. There were no exceedances of the annual mean NO_2 AQO or the indicative threshold of 60 µg/m^3 for the 1-hour mean NO_2 AQO measures at passive diffusion tube monitoring locations in the vicinity of the Application Site in 2022. Defra predicted background concentrations are below the relevant AQOs for NO_2, PM_{10} and $PM_{2.5}$ concentrations;
- A qualitative assessment of the potential dust impacts during the construction of the Proposed Development has been undertaken. Through good practice and implementation of appropriate mitigation measures, it is expected that the release of dust would be effectively controlled and mitigated, with resulting impacts considered to be 'not significant'. All dust impacts are considered to be temporary and short-term in nature;
- The results of the operational phase traffic screening assessment indicate that the trips associated with the Proposed Development, on the local roads, will not be in exceedance of the indicative criteria set out in the EPUK and IAQM guidance. As such, the potential impact of operational road traffic is considered to be not significant, and a detailed assessment is not required;
- The energy strategy for the Proposed Development is proposed to be all electric, utilising zero-combustion technology. As no combustion sources are proposed, no local air quality impacts are anticipated and a detailed assessment of impacts of combustion emissions from the energy plant has been screened out of this assessment; and
- A qualitative Site Suitability Assessment has been undertaken to assess the suitability of the Application Site for the proposed Eg(iii), B2 and B8 use. Based on the assessment results, there will be no likely exceedances of the relevant AQOs for all pollutant at the Proposed Development. Therefore, the Application Site is considered suitable for Eg(iii), B2 and B8 use without the inclusion of mitigation measures.

Based on the information above, it is considered that air quality should not be viewed as a constraint to planning and the Proposed Development conforms to the principles of National Planning Policy Framework and the West Oxfordshire Local Plan 2031.

9. Glossary of Terms.

AADT	Annual Average Daily Traffic
AQAP	Air Quality Action Plan
AQDMP	Air Quality Dust Management Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Annual Quality Strategy
DMP	Dust Management Plan
Defra	Department for Environment, Food and Rural Affairs
EPA	Environment Protection Act
EPUK	Environmental Protection UK
HDV	Heavy Duty Vehicles (> 3.5 tonnes gross vehicle weight)
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LDV	Light Duty Vehicles (≤3.5 tonnes gross vehicle weight)
µg/m^3	Micrograms per cubic metre
NGR	National Grid Reference
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides (taken to be NO_2 + NO)
NPPF	National Planning Policy Framework
NRMM	Non-Road Mobile Machinery
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
PM_{10}	Particulate matter with an aerodynamic diameter less than 10 micrometres
$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than 2.5 micrometres
PPG	Planning Practice Guidance
SPG	Supplementary Planning Guidance
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
Trackout	The transport of dust and dirt from the construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy duty vehicles (HDVs) leave the construction / demolition site with dusty materials, which may then spill onto the road, and/or when HDVs transfer dust and dirt onto the road having travelled over muddy ground on site
WHO	World Health Organisation
WODC	West Oxfordshire District Council

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Appendix 1 - EHO Consultation.

Good afternoon [redacted]

I ask for 2019 to be used as a baseline to provide a worse case and establish what the predicted NO2 concentrations would be should we see the impact of covid be reversed, e.g. more people go back to the office, and traffic levels return to pre covid levels. I appreciate there would still be a 'natural' fall in concentrations due to improved efficiency and increase in LEVs, however it should give higher predicted NO2 concentrations compared to using 2022 as a baseline. That said, I understand in the case of the application in question, where a detailed assessment is not required, my original request is no longer applicable.

With regards to your request for the raw 2023 data, we do have the full set, however there is currently an issue with one set of results which we are in the process of resolving. From the data we have, early indications are that NO2 concentrations in 2023 have continued to fall, including within the AQMA.

I can confirm I am happy with your proposed approach outlined below, and look forward to reviewing the final report.

Kind regards,

Thank for your email below, I have been working with my colleague [redacted] on this.

A review of the 2019 to 2022 local monitoring data suggests that there is a decreasing trend in NO_2, even accounting for 2022 where COVID restrictions are not considered to play a factor in the decrease in pollutant levels. Is the 2023 raw air quality data available for viewing for us to undertake trend analysis on the local monitoring data ? This would not be used within our report but would be useful particularly if the 2023 data shows possible exceedances or an increasing pollutant trend within the AQMA.

Furthermore, we have received confirmation from the total LDV trip generation through the Bridge Street AQMA could range from 19-45 additional trips depending on the use class of the proposed development, as provided within the table below. This does not take into account the net change in trips from the existing building and therefore the impact of the AQMA will be lower than this.

It has also been noted that HGV's from the site would route from route to and from the A40 using either the B4047 or the roundabout to the south of the site via Downs Road.

	Arrivals	Departures	Total
	Use Class E(g)(iii)		
AM Peak (08:00-09:00)	3	1	5
PM Peak (17:00-18:00)	0	3	3
Daily	23	22	45
	Use Class B2		
AM Peak (08:00-09:00)	2	0	2
PM Peak (17:00-18:00)	0	1	1
Daily	10	10	19
	Use Class B8		
AM Peak (08:00-09:00)	3	1	4
PM Peak (17:00-18:00)	0	2	3
Daily	17	15	32

Given the scheme falls below the IAQM criteria of 100AADT through an AQMA it is considered that the additional trips would not cause a significant impact through the AQMA, therefore negates the requirement to undertake modelling at the AQMA, in accordance to the IAQM guidance.

Please could you confirm whether this is approach is acceptable, alternatively please feel free to give me a call to discuss.

Kind Regards,

Thank you for your email regarding the AQA for the proposed development at Windrush Industrial Park, Witney. I am happy with the general scope of the assessment, however I would like the following to be included:

- Inclusion of the impact on the AQMA
- Inclusion of a 'worse case' scenario using 2019 data as a baseline.

I ask for the latter, as it will provide information on the impact of the development should NO_2 concentrations/traffic volumes return to pre-Covid levels.

As the development is relatively small, I am not expecting there to be an issue. Consequently, I think it is unnecessary for the assessment to include any of the large housing developments in the pipeline for the town, with the exception of any permitted developments in and around Windrush Park itself. However, I would recommend the inclusion of the Shores Green Junction scheme, which has been approved and should divert traffic from this development away from the AQMA.

Please let me know if you need to discuss any of the above.

Kind regards,

Hoare Lea have been instructed to undertake an Air Quality Assessment (AQA) to support the proposed development of 7 new warehouse units located within the Windrush Industrial Park, Witney, OX29 7DZ. Please see the approximate Site boundary below for reference.

The proposed Development consists of the demolition of the existing building and the development of 7 new light industrial/warehouse units with ancillary office space, associated parking and service yards with E(g)iii (industrial processes), B2 (general industrial) and B8 (storage and distribution) classification of uses.

Hoare lea propose to undertake the assessment using the following methodology:

- A baseline assessment will be undertaken utilising the West Oxfordshire District Council (WODC) monitoring data from the most recent Annual Status Report (2023).

- Defra background concentrations will be used to further establish background concentrations in the area.
- Both existing WODC monitoring data and the Defra background concentrations will be used to qualitatively inform the site suitability of the Site for the Proposed E(g)iii, B2 and B8 use. Could you please confirm you're happy for Hoare Lea to proceed using 2022 monitoring data as the baseline year for this assessment?
- The traffic generation associated with the Proposed Development has been provided by SLR Consulting, the appointed transport consultant for the project, and the results of the operational phase traffic screening assessment indicated that the LDV AADT and HDV AADT trip generation associated with the Proposed Development is anticipated to be below the relevant EPUK/IAQM screening criteria of 500 LDV and 100 HDV for outside of an Air Quality Management Area (AQMA). As such, a detailed assessment is not required and can be screened out of this assessment..
- The proposed energy strategy for the Proposed Development is anticipated to be all electric. There are no proposals for back-up generators to be included at the Proposed Development. As such, there are not expected to be air quality impacts at local receptors and detailed dispersion modelling of combustion emissions from the Proposed Development will not be carried out.
- The assessment will be undertaken in line with the EPUK/IAQM document 'Land-Use Planning & Development Control: Planning for Air Quality' January 2017.
- The air quality assessment will also consider impacts during the demolition and construction phase of the development using the IAQM document 'Assessment of dust from demolition and construction' 2024 v2.2.
- Recommendations for mitigation measures will be provided based on the results of the assessment, where necessary.
- Air quality policies set out in West Oxfordshire District Council Local Plan 2031 and the Supplementary Planning Documents will be taken into account.

It would be appreciated if you could please confirm your acceptance of the proposed methodology and provide me with any comments you may have. However, if you would like to discuss further, please do not hesitate to contact me on the email below.

Kind regards,

Appendix 2 - Professional Experience.

Christelle Escoffier (Hoare Lea) MsEng. Msc. PhD MIES MIAQM

Christelle Escoffier is a Senior Associate and technical lead for air quality group with Hoare Lea. She is a Full Member of the Institution of Environmental Sciences and the Institute of Air Quality Management. She graduated with a Master in Science Diploma from Paris VI University, France and holds a Doctor of Philosophy degree in Physical Oceanography, Meteorology and Environment, from the same University.

In her twenty-two years of professional experience, she has managed and delivered air quality services for a wide range of industries in the United Kingdom (UK), the United States of America (USA) and the Middle East. Her portfolio of experience comprehends projects for diverse sectors from road transport, planning and development, wastewater and waste, oil and gas to power (energy centres, landfill gas plant, power reserve facilities, gas-fired and oil-fired combustion turbine stations). Christelle has in-depth knowledge of atmospheric dispersion models. She has delivered dispersion modelling training courses to government agencies, academic, industrial and commercial professionals worldwide since 2005.

Rachael Harrison (Hoare Lea) BSc(Hons) AMIEnvSc, AMIAQM

Rachael is a Senior Air Quality Consultant with Hoare Lea. She is an Associate Member of both the Institution of Environmental Sciences and Institute of Air Quality Management. Rachael has experience in managing Air Quality and Odour Assessments for a wide range of UK and international clients covering sectors including; residential, commercial, energy and industrial operations. With experience in quantitative and qualitative atmospheric assessments, complex dispersion modelling, air pollutant monitoring surveys for rail, road transport and energy projects. Rachael's interests lie in the health implications attributed to poor air quality.

Oliver Parsons (Hoare Lea), BSc (Hons), MSc, AMIEnvSc, AMIAQM

Oliver is a Senior Air Quality Consultant with Hoare Lea. He is an Associate Member of the Institution of Environmental Sciences and an Associate Member of the Institute of Air Quality Management. He has worked on projects across multiple sectors including residential, commercial and industrial sectors.

He has completed two EIA within the past year at Hoare Lea, SSEN (film studio) and SBQ (mixed use residential). He has experience across different aspects of the air quality assessment processes including monitoring, detailed dispersion modelling of roads, standalone air quality assessments and environmental impact assessments.

T-Jay Brown (Hoare Lea), BSc, MSc, AMIAQM

T-Jay is a Graduate Air Quality Consultant with Hoare Lea. He is an Associate Member of the Institution of Environmental Sciences and an Associate Member of the Institute of Air Quality Management. T-Jay has worked on a range of projects within multiple sectors such as industrial, education and residential.

At Hoare Lea, T-Jay has worked on the air quality assessments for projects which have been successfully submitted for planning. Additionally, he has experience in undertaking detailed dispersion modelling of roads, air quality monitoring and producing indoor air quality plans. T-Jays interests lie in air quality management and its relation to public health and wellbeing.

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