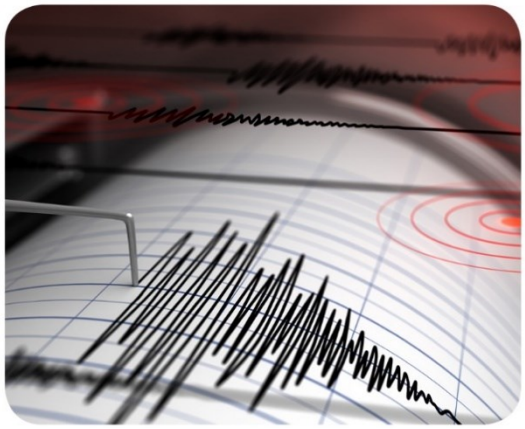

Air & Acoustic Consultants

Oxford Victoria House Limited

Victoria House

Air Quality Statement

August 2022

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Air Quality Statement

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100555

DATE:

August 2022

REPORT NO.	PREPARED:	DATE ISSUE:	STATUS:	CHECKED:	AUTHORISED:
1	MP	10/08/2022	Final	SG	SG

CHANGE LOG.

VERSION NO.	DATE:	CHECKED BY:	REASON FOR CHANGE:

Oxford Victoria House Limited

Victoria House

Air Quality Statement

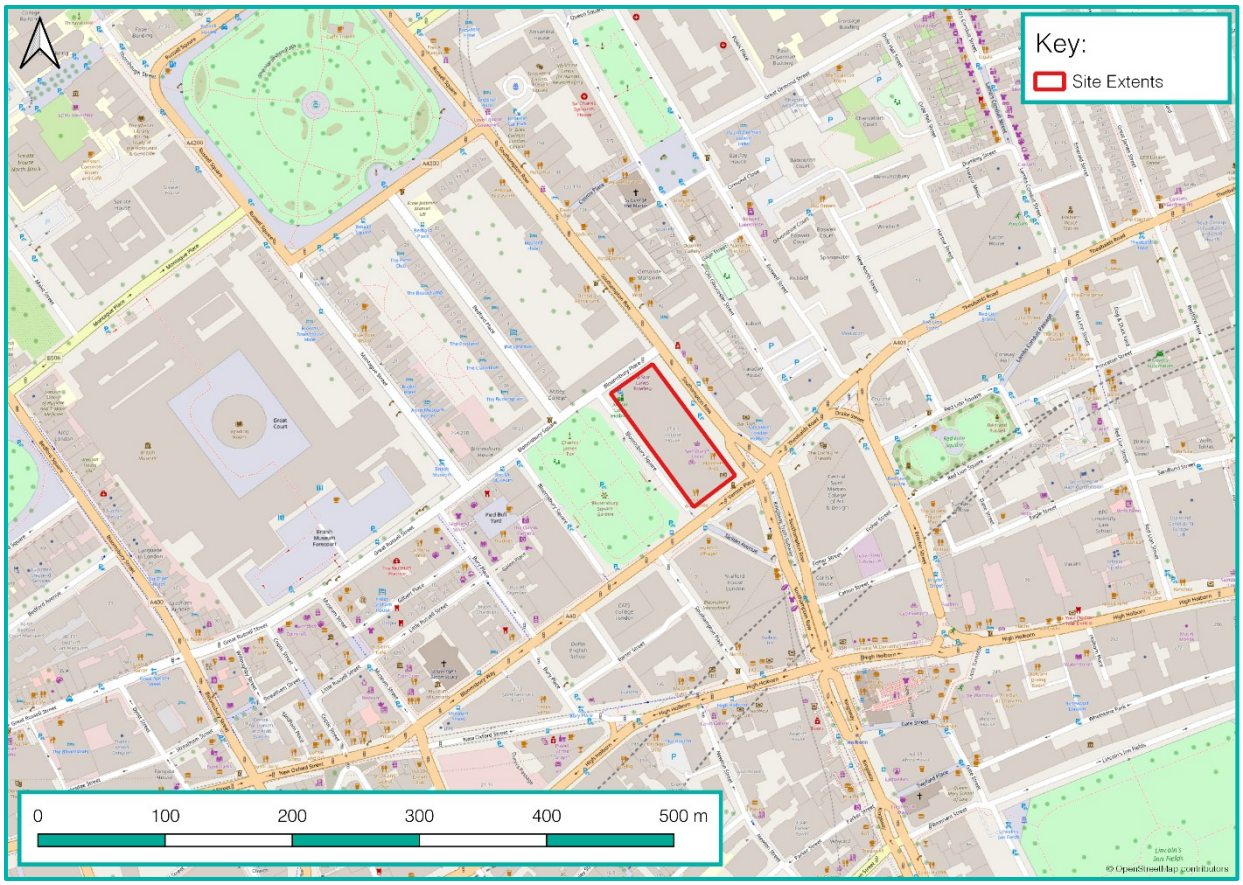
CONTENTS

1 Introduction

1.1 Brief

1.1.1 Vanguardia has been commissioned by Oxford Victoria House Limited to undertake an air quality statement, (AQS), to accompany a planning application at Victoria House, Camden, London. The National Grid Reference for the centre of the site is TQ 30402 81709. The location of the application site is shown in Figure 1.1.

Figure 1.1: Site Location



1.2 Development Proposals

1.2.1 The proposals are to convert Victoria House from office space to mix of 50% office and 50% laboratory space.

1.2.2 Victoria House is planned to be equipped with laboratory extract stacks located on the roof. In addition, three existing standby diesel generators will be replaced with a single unit.

1.3 Assessment Approach

1.3.1 At the time of writing, no chemical inventory or detailed information on the diesel generator is available.

1.3.2 On this basis (at the time of writing) it has not been possible to undertake a full air quality impact assessment, as exact details are not available. Therefore, this document sets out the proposed

methodology for the undertaking of a future Air Quality Assessment (AQA), which will supersede this document during the planning process.

1.3.3 This AQS considers the following:

- Section 2 considers the proposed scheme in relation to the relevant national and local planning policies;
- Section 3 sets out the current baseline position;
- Section 4 describes the proposed impact assessment methodology; and
- Section 5 summarises and concludes the report.

2 Legislation, Policy & Guidance Context

2.1 European Legislation

2.1.1 Air pollutants at high concentrations can give rise to adverse effects upon the health of both humans and ecosystems. The European Union (EU) legislation on air quality forms the basis for the national UK legislation and policy.

2.1.2 The EU Framework Directive 2008/50/EC came into force in May 2008 and sets out legally binding limits for concentrations of the major air pollutants that can impact on public health. This Directive came into force in England in June 2010[1]. Amendments to this Directive was made following amendments to the 2008/50/EC and 1004/107/EC on air quality made by Directive 2015/1480/EC. The updated Directive, The Air Quality Standards (Amendment) Regulations 2016, came into force on 31st December 2016[2].

2.1.1 Following the UK's departure from the EU and the Brexit transition period the previous EU Legislation has been retained in the United Kingdom. The following text is taken from the legislation.gov.uk[3] website, setting out details of the retention:

> *"The UK is no longer a member of the European Union. EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation, under the control of the UK's Parliaments and Assemblies, and is published on legislation.gov.uk.*
>
> *[…]*
>
> *EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'. This is set out in sections 2 and 3 of the European Union (Withdrawal) Act 2018 (c. 16)."*

2.2 National Legislation, Policy and Strategy

2.2.1 Part IV of the Environment Act 1995[4] requires local authorities to review and assess the air quality within their boundaries. As a result, the Air Quality Strategy was adopted in 1997[5], with national health-based standards and objectives set out for the, then, eight key air pollutants including benzene, 1-3 butadiene, carbon monoxide, lead, nitrogen dioxide (NO_2), ozone, particulate matter and sulphur dioxide.

2.2.2 Part IV of the Environment Act 2021[6] amends both the Environment Act 1995 and the Clean Air Act 1993[7]. It builds on the foundations provided by Part IV of the Environment Act 1995 and strengthens the local air quality management framework. The act allows the Secretary of State to make provisions for, about or connect with the recall of relevant products that do not meet relevant environmental standards.

2.2.3 The government have resisted calls for the adoption of the recently updated World Health Organisation (WHO) air quality guidelines, specifically targeting particulate matter pollution. The act does introduce a duty on the government to bring forward at least two air quality targets by October 2022 for consultation that will be set in secondary legislation. The first will aim to reduce the annual average level of fine

[1] Statutory Instrument, 2010. *The Air Quality Standards Regulations,' No. 1001. Queen's Printer of Acts of Parliament.*
[2] Statutory Instrument, 2016. *The Air Quality Standards Regulations,' No. 1184. Queen's Printer of Acts of Parliament.*
[3] EU legislation and UK law. Accessible at: *https://www.legislation.gov.uk/eu-legislation-and-uk-law*
[4] Parliament of the United Kingdom, 1990. *Environmental Protection Act*, Chapter 43. Queen's Printer of Acts of Parliament.
[5] Department for Environment Food and Rural Affairs, 1997. *The United Kingdom National Air Quality Strategy*, Cm 3587.
[6] UK Public General Acts, 2021. *Environmental Act 2021*, *Chapter 30. Queen's Printer of Acts of Parliament.*
[7] UK Public General Acts, 1993. Clean Air Act 1993, Chapter 11. Queen's Printer of Acts of Parliament.

particulate matter ($PM_{2.5}$) in ambient air. The second will be a long-term target (set a minimum of 15 years in the future), which the government says, *"will encourage long-term investment and provide certainty for businesses and other stakeholders."*

2.2.4 The purpose of the Air Quality Strategy was to identify areas where air quality was unlikely to meet the objectives prescribed in the regulations. The strategy was reviewed in 2000 and the amended Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2000)[8] was published. This was followed by an Addendum in February 2003 and in July 2007, when an updated Air Quality Strategy was published[9].

2.2.5 The pollutant standards relate to ambient pollutant concentrations in air, set on the basis of medical and scientific evidence regarding how each pollutant affects human health. Pollutant objectives are the future dates by which each standard is to be achieved, considering economic considerations, practical and technical feasibility.

UK Air Quality Objectives

2.2.6 The air quality objectives are managed through the Local Air Quality Management, (LAQM) regime, which is defined within the Air Quality (England) Regulations 2000, (SI 928) and The Air Quality (England) (Amendment) Regulations 2002, (SI 3043). Table 2.1 lists the National Air Quality Objectives that are relevant to this AQS, as set out in the Air Quality Standards (Amendment) Regulations 2016. To note, once a full suite of anticipated pollutants is known, these will be considered against the relevant standard / objective.

Table 2.1: Air Quality Objectives (England)

Pollutant	Air Quality Objective	
	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
	40 µg/m^3*	Annual mean
$PM_{2.5}$	20 µg/m^3*	Annual mean – Indicative Stage 2 limit value post 2020. 15% reduction in background to be achieved between 2010 & 2020 at Urban Background sites
Notes: *Except Scotland		

[8] Department of the Environment, Transport and the Regions, 2000. The Air Quality Strategy for England, Scotland, Wales, and Northern Ireland

[9] Department for Environment Food and Rural Affairs, 2007. *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland*, Cm 7169, Department for Environment Food and Rural Affairs.

National Planning Policy

2.2.7 The National Planning Policy Framework (NPPF)[10] (2021) sets out the planning policy for England, to help achieve sustainable development within the planning sector.

2.2.8 Paragraph 105 states:

> *"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."*

2.2.9 Paragraph 174 states:

> *"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.*
>
> *[...]"*

2.2.10 Paragraph 185 states:

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

2.2.11 Paragraph 186 states:

> *"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."*

2.2.12 Paragraph 188 states:

[10] Ministry of Housing, Communities & Local Government, 2021. *National Planning Policy Framework.*

"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."

2.2.13 The NPPF also sets out the national planning policy on biodiversity and conservation. This emphasises that the planning system should seek to minimise effects on and provide net gains in biodiversity, wherever possible, as part of the Government's commitment to halting decline and establishing coherent and resilient ecological networks.

2.2.14 The NPPF is supported by Planning Practice Guidance (PPG)[11] (DCLG, 2021), which sets out the principles on how planning can take account of the impacts of new developments on air quality.

2.2.15 Paragraph 001 Reference ID: 32-001-20191101 states:

"The 2008 Ambient Air Quality Directive sets legally binding limits for concentrations in outdoor air of major air pollutants that affect public health such as particulate matter (PM_{10} and $PM_{2.5}$) and nitrogen dioxide (NO_2).

The UK also has national emission reduction commitments for overall UK emissions of 5 damaging air pollutants:

- *fine particulate matter ($PM_{2.5}$)*
- *ammonia (NH_3)*
- *nitrogen oxides (NO_x)*
- *sulphur dioxide (SO_2)*
- *non-methane volatile organic compounds (NMVOCs)*

As well as having direct effects on public health, habitats and biodiversity, these pollutants can combine in the atmosphere to form ozone, a harmful air pollutant (and potent greenhouse gas) which can be transported great distances by weather systems. Odour and dust can also be a planning concern, for example, because of the effect on local amenity."

2.2.16 Paragraph: 005 Reference ID: 32-005-20191101 states:

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

Where air quality is a relevant consideration the local planning authority may need to establish:

[11] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government. Planning Practice Guidance. Accessible at: http://planningguidance.planningportal.gov.uk/

- *The 'baseline' local air quality, including what would happen to air quality in the absence of the development;*
- *whether the proposed development could significantly change air quality during the construction and operational phases (and the consequences of this for public health and biodiversity); and*
- *whether occupiers or users of the development could experience poor living conditions or health due to poor air quality."*

2.3 Regional Planning Policy and Strategy

London Plan

2.3.1 The London Plan[12] is the third London Plan and was published in March 2021. It is a new plan, and brings together the geographical and locational aspects of the Mayor's other strategies, which includes the environment. The plan provides an appropriate spatial strategy that plans for London's growth in a sustainable way.

2.3.2 The London Plan includes one policy that is specifically related to air quality.

2.3.3 Policy SI 1: *Improving air quality*, states:

A. "Development Plans, through relevant strategic, site-specific and area based policies, should seek opportunities to identify and deliver further improvements to air quality and should not reduce air quality benefits that result from the Mayor's or boroughs' activities to improve air quality.

B. To tackle poor air quality, protect health and meet legal obligations the following criteria should be addressed:

1. Development proposals should not:

a) lead to further deterioration of existing poor air quality

b) create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits

c) create unacceptable risk of high levels of exposure to poor air quality.

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

a) Development proposals must be at least air quality neutral

b) Development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retrofitted mitigation measures

c) Major development proposals must be submitted with an Air Quality Assessment. Air quality assessments should show how the development will meet the requirements of B1

d) Development proposals in Air Quality Focus Areas or that are likely to be used by large numbers of people particularly vulnerable to poor air quality, such as

[12] Greater London Authority, 2021, *The London Plan 2021.*

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."*

2.3.4 The London Plan also has several other policies which make reference to air quality. The relevant aspects of these polices can be found in the London Plan document, and include areas such as parking, energy infrastructure and many more.

The Mayor of London Air Quality Strategy

2.3.5 The Mayor of London Air Quality Strategy[13] was published in December 2010 and aims to reduce air pollution in London so that the health of Londoners is improved. In order to achieve this the EU air quality limits values need to be achieved as soon as possible. This will be achieved through a number of measures, some of which include the Congestion charging and London Low Emission Zone (LEZ), development of electric vehicle infrastructure, funding and supporting car clubs. Additional measures are outlined in the document.

The Mayor of London Environment Strategy

2.3.6 The Mayor of London Environment Strategy[14], published in May 2018, integrates every aspect of London's environment into different categorised areas, including air quality. The document includes several transport and non-transport related policy measures outlined in Chapter 4, highlighting the need for improvement in London's air quality and ensuring London is greener, cleaner and ready for the future. The Mayor's main aim is to create a zero emission London by 2050, and aims to do this by outlining a number of proposals.

2.3.7 Policy 4.2.1 states:

[13] Greater London Authority, 2010. *The Mayor's Air Quality Strategy.*
[14] Greater London Authority, 2018, *London Environment Strategy.*

"Reduce emissions from London's road transport network by phasing out fossil fuelled vehicles, prioritising action on diesel, and enabling Londoners to switch to more sustainable forms of transport."

2.3.8 Policy 4.2.2 states:

"Reduce emissions from non-road transport sources, including by phasing out fossil fuels."

2.3.9 Proposals for the following policies include the promotion of more sustainable forms of travel in London as well as proposing a reduction in emission from Non-Road Mobile Machinery (NRMM), construction and demolition sites, homes, workplaces and large-scale generators.

2.3.10 Policy 4.3.1 states:

"The Mayor will establish new targets for $PM_{2.5}$ and other pollutants where needed. The Mayor will seek to meet these targets as soon as possible, working with government and other partners."

2.3.11 Policy 4.3.2 states:

"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."

2.3.12 Policy 4.3.3 states:

"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."

2.3.13 Policy 4.3.4 states:

"Work to reduce exposure to indoor air pollutants in the home, schools, workplace and other enclosed spaces."

2.3.14 As well as aiming to meet the WHO guidelines by 2030, the proposals for these policies include the switching of fleet vehicles to zero emission capability, implementation of local zero emission zones from 2020, ensure all new large-scale developments are 'Air Quality Positive' and maintain Air Quality Neutral requirements for all developments. Furthermore, the reduction in emissions from wood and other solid fuel burning, using the planning system to reduce indoor exposure though design measures, preventing poor air quality entering the building are all proposed.

2.4 Local Planning Policy and Strategy

Camden Local Plan

2.4.1 The Camden Local Plan[15] was adopted in 2017 and has a number of policies which are relevant to this assessment, as set out below:

2.4.2 Policy A1 Managing the Impact of Development states:

"The Council will seek to protect the quality of life of occupiers and neighbours. We will grant permission for development unless this causes unacceptable harm to amenity.

We will:

[15] London Borough of Camden, 2017 *Camden Local Plan 2016 – 2031*

[…]

d. require mitigation measures where necessary.

[…]"

Policy CC4 Air Quality states:

"The Council will ensure that the impact of development on air quality is mitigated and ensure that exposure to poor air quality is reduced in the borough.

The Council will take into account the impact of air quality when assessing development proposals, through the consideration of both the exposure of occupants to air pollution and the effect of the development on air quality. Consideration must be taken to the actions identified in the Council's Air Quality Action Plan.

Air Quality Assessments (AQAs) are required where development is likely to expose residents to high levels of air pollution. Where the AQA shows that a development would cause harm to air quality, the Council will not grant planning permission unless measures are adopted to mitigate the impact. Similarly, developments that introduce sensitive receptors (i.e. housing, schools) in locations of poor air quality will not be acceptable unless designed to mitigate the impact.

Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts in an AQA and include appropriate mitigation measures to be secured in a Construction Management Plan."

Camden Planning Guidance – Air Quality

2.4.3 The London Borough of Camden (LBC) has also published their own planning guidance[16]. This provides information on air quality in the borough and supports Local Plan Policy CC4 Air Quality.

[16] London Borough of Camden, 2021. *Camden Planning Guidance Air Quality*.

3 Baseline Conditions

3.1 Air Quality Review and Assessment

3.1.1 Under the Air Quality Strategy, there is a duty on all local authorities to consider the air quality within their boundaries and to report annually to DEFRA. Local Air Quality Management in the vicinity of the site has been assessed by LBC through the national Review and Assessment process and in fulfilment of Part IV of the Environmental Act 1995.

3.1.2 LBC has declared an Air Quality Management Area (AQMA) covering the whole jurisdiction for exceedances of the NO_2 annual mean objective and PM_{10} 24-hour mean objective.

3.1.3 The GLA have identified 187 'Air Quality Focus Areas' (AQFAs) where concentrations of NO_2 exceed the annual mean objective and have high levels of human exposure. These areas are identified as requiring air quality improvements and is where the GLA believe the problems to be most acute. To note, the proposed development is located ~ 40 m North of the Camden AQFA.

3.2 Local Air Quality Monitoring

3.2.1 LBC have four automatic pollution monitoring sites measuring a mixture of pollutants, including NO_2, PM_{10} and $PM_{2.5}$. To support this, the council also have a network of non-automatic NO_2 diffusion tubes.

3.2.2 Table 3.1 to Table 3.5 sets out the NO_2, PM_{10} and $PM_{2.5}$ respectively between 2016 and 2020 for the nearest monitoring locations, which are illustrated in Figure 3.1.

Table 3.1: Summary of NO_2 Annual Mean Air Quality Monitoring

ID	Type	Annual Mean (µg/m^3)				
		2016	2017	2018	2019	2020
Automatic Monitors						
BLO	Urban Background	**42**	38	26	32	28
Diffusion Tubes						
CA11	Kerbside	**84**	**74**	**66**	**61**	**42**
CA21	Roadside	**72**	**71**	**59**	**48**	29
Objective				40		

Notes:

Bold indicates exceedances of the NO_2 annual mean objective. **Bold and underlined** indicates exceedances of 60 µg/m^3 (which is an indication the hourly mean objective could be being breached).

Table 3.2: Summary of NO_2 1-Hour Mean Air Quality Monitoring

ID	Type	Number of 1-Hour Mean Exceedances				
		2016	2017	2018	2019	2020
Automatic Monitors						
BLO	Urban Background	0	0	0	0	0
Objective				18 times/year		

Notes:

Bold indicates exceedances of the NO_2 1-hour mean objective (not to be exceeded more than 18 times a year).

Table 3.3: Summary of PM_{10} Annual Mean Air Quality Monitoring

ID	Type	Number of Annual Mean Exceedances				
		2016	2017	2018	2019	2020
Automatic Monitors						
BLO	Urban Background	20	19	17	18	16
KGX	Urban Background/Industrial	-	-	15	15	13
Objective		40				

Notes:

Bold indicates exceedances of the PM_{10} annual mean objective.

Table 3.4: Summary of PM_{10} 24-Hour Mean Air Quality Monitoring

ID	Type	Number of 24-Hour Mean Exceedances				
		2016	2017	2018	2019	2020
Automatic Monitors						
BLO	Urban Background	9	6	1	9	4
KGX	Urban Background/Industrial	-	-	1	5	1
Objective		35 times/year				

Notes:

Bold indicates exceedances of the PM_{10} 24-hour mean objective (not to be exceeded more than 35 times a year).

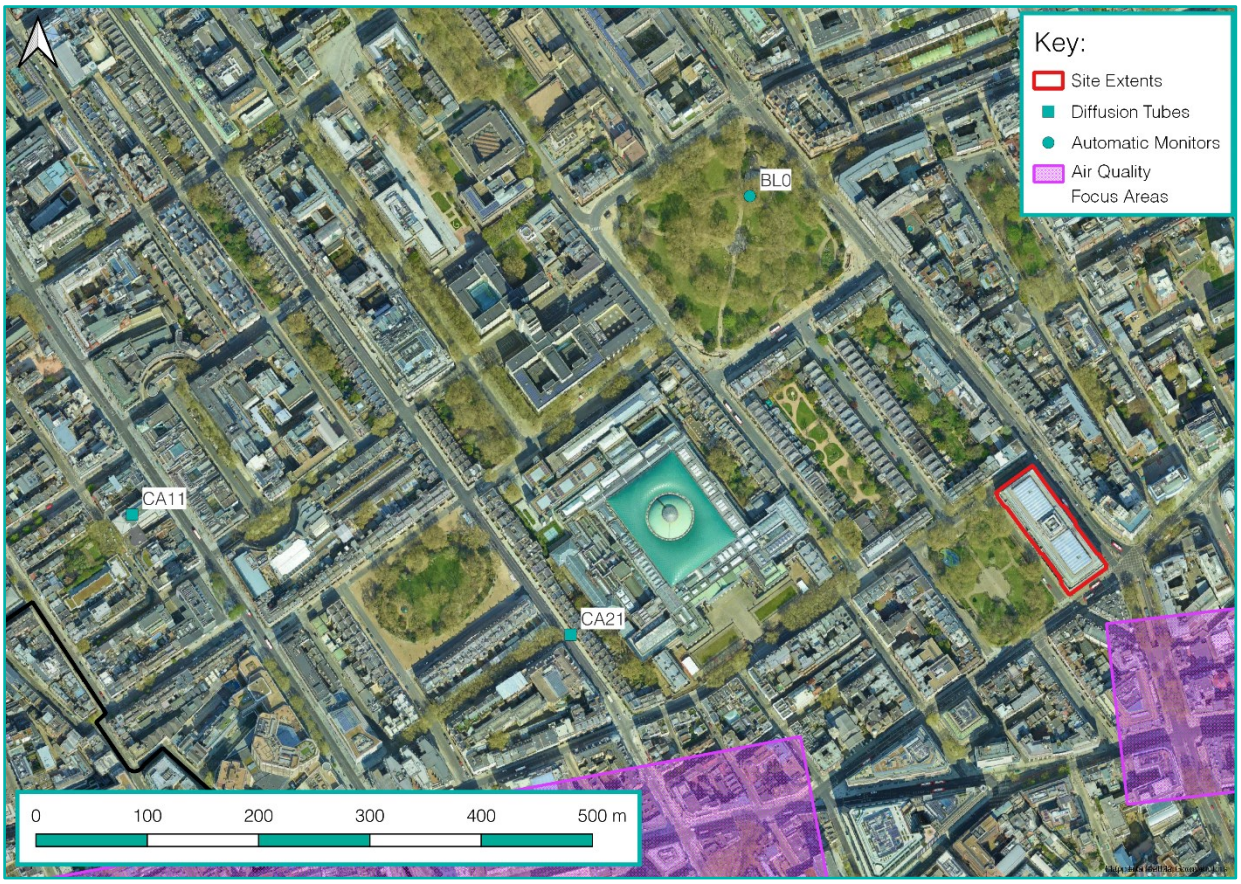
Table 3.5: Summary of $PM_{2.5}$ Annual Mean Air Quality Monitoring

ID	Type	Number of Annual Mean Exceedances				
		2016	2017	2018	2019	2020
Automatic Monitors						
BLO	Urban Background	12	13	10	11	9
Objective		20				

Notes:

Bold indicates exceedances of the PM_{10} 24-hour mean objective (not to be exceeded more than 35 times a year).

Figure 3.1: Local Monitoring Locations



3.2.3 A review of the measured nitrogen dioxide (NO_2) concentrations in Table 3.1 indicates consistent exceedances of the annual mean objective (40 µg/m^3) at the diffusions tube locations for the past 5 years of available monitoring data, and a number of annual mean concentrations exceeding 60 µg/m^3, indicating the 1-hour mean objective may be being exceeded.

3.2.4 A review of the measured PM_{10} concentrations in Table 3.3 and Table 3.4 indicates no exceedances of the of the annual mean objective (40 µg/m^3) or 24-hour mean objective.

3.2.5 A review of the measured $PM_{2.5}$ concentrations in Table 3.5 indicates no exceedances of the of the annual mean objective (20 µg/m^3).

3.3 Mapped Background Concentrations

DEFRA Background Concentrations

3.3.1 The DEFRA website includes estimated background air pollution data for NO_x, NO_2, PM_{10} and $PM_{2.5}$ for each 1km-by-1km OS grid square. Background pollutant concentrations are modelled from the base year of 2018 and based on ambient monitoring and meteorological data from 2018 and then projected for future years. Projected pollutant concentrations for 2019, covering the closest OS grid square to the application site, have been utilised as part of this assessment.

3.3.2 As per a recent statement from DEFRA[17], the DEFRA background concentrations do not consider short term variations as a result of the COVID-19 outbreak in the UK:

> *"Users of the updated LAQM tools should be aware that the projections in the 2018 reference year background maps and associated tools are based on assumptions which were current before the Covid-19 outbreak in the UK. In consequence these tools do not reflect short or longer term impacts on emissions in 2020 and beyond resulting from behavioural change during the national or local lockdowns."*

3.3.3 Although the DEFRA background maps are based on ambient monitoring and meteorological data, they do contain some limitations, including assuming an average concentration over 1 km x 1 km square grid. Therefore, to improve the accuracy of the background mapping concentrations, a comparison of monitored data and mapped background concentrations (for the grid square where the monitoring site is located) has been conducted, which has then been used to calibrate the DEFRA background concentrations.

3.3.4 The background NO_2 concentrations have been calibrated against data measured in 2019 at one automatic urban background site and four diffusion tubes monitoring site within LBC. Background PM_{10} concentrations have been calibrated against data measured in 2019 at two urban background automatic monitoring sites and background $PM_{2.5}$ concentrations have been calibrated against data measured at one urban background automatic monitoring site in LBC.

3.3.5 Measured annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations at these monitoring locations have been compared against the annual mean concentration predicted by DEFRA's background maps to find an average calibration factor. The calibration factor is then applied to the DEFRA background concentrations.

3.3.6 The background calibration factors for NO_2, PM_{10} and $PM_{2.5}$ are set out in Table 3.6, Table 3.7 and Table 3.8.

Table 3.6: NO_2 Background Calibration Factor

NO_2	Monitoring Sites				
	BLO	CA6	CA28	CA7	CA10
Measured Concentration (µg/m^3)	32	24.7	27.7	22.8	33.1
Mapped Concentration (µg/m^3)	39.3	39.3	39.3	26.3	39.6
Calibration Factor	0.8	0.6	0.7	0.9	0.8
Average Calibration Factor	0.8				

Table 3.7: PM_{10} Background Calibration Factor

PM_{10}	Monitoring Sites	
	BLO	KGX

[17] Department for Environment Food & Rural Affairs. Available at: Background Maps | LAQM (defra.gov.uk)

Measured Concentration (µg/m^3)	18	15
Mapped Concentration (µg/m^3)	20.3	19.9
Calibration Factor	0.9	0.8
Average Calibration Factor	0.8	

Table 3.8: $PM_{2.5}$ Background Calibration Factor

$PM_{2.5}$	Monitoring Sites
	BLO
Measured Concentration (µg/m^3)	11
Mapped Concentration (µg/m^3)	12.0
Calibration Factor	0.9

3.3.7 The calibration factors are then applied to the DEFRA background concentrations, giving an estimate for the annual mean background concentrations, as set out in Table 3.9.

Table 3.9: Estimated Annual Mean Background Pollutant Concentrations (µg/m^3)

Pollutant	2019
NO_2	30.3
PM_{10}	16.7
$PM_{2.5}$	11.0
Notes: Data presented are derived from the ordinance survey grid references E: 530500, N: 181500	

4 Assessment Approach

4.1 Camden Planning Guidance – Air Quality

4.1.1 The Camden Planning Guidance document for Air Quality sets out a checklist for when an Air Quality Assessment is required.

4.1.2 The document states that an AQA is required where any of the following apply:

- Major applications where occupants will be exposed to poor air quality (along a busy road, diesel railway lines or in a generally congested area);
- Development that has potential to significantly change road traffic on a busy road;
- The development has more than 75 new residences;
- Commercial developments with a floorspace of 2,500 sqm or more;
- Developments that include biomass boilers or CHP (combined heat and power) and connections to existing decentralised energy networks (whereby the increased capacity is not already covered by an existing AQA);
- Substantial earthworks or demolition; and
- Development that introduces sensitive uses into an area of poor air quality.

4.1.3 Due to the sensitive nature of the proposals (inclusion of speculative labs) into an area where air quality concentrations (as illustrated in Section 3) are exceeding the air quality annual mean objective for NO_2, a full impact assessment will be considered once the information is available.

4.2 Environmental Protection UK & Institute of Air Quality Management Guidance

4.2.1 Another key guidance document which has been used to determine the potential for impacts upon air quality is the EPUK & IAQM (2017)[18] *Land-Use Planning and Development Control: Planning for Air Quality* document.

4.2.2 This guidance document provides indicative screening criterion for when an Air Quality Impact Assessment (AQIA) is required. The following screening criterion has been considered for this AQS:

Local Highway Network

Stage 1:

- If any of the following apply to the proposed development:
  - Contains 10 or more residential units or a site area of more than 0.5ha; or
  - Contains more than 1,000 m^2 of floor space for all other uses or a site area greater than 1ha.
- Coupled with any of the following:
  - The development has more than 10 parking spaces; or

[18] Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM), 2017. *Land-use Planning & Development Control: Planning for Air Quality.*

- The development will have a centralised energy facility or other centralised combustion process.

Stage 2:

- A change of cars / LDVs (light duty vehicles) flow of:
  - More than 100 Annual Average Daily Traffic (AADT) within or adjacent to an AQMA; or
  - More than 500 AADT elsewhere.
- A change of HDVs (heavy duty vehicles) flow of:
  - More than 25 AADT within or adjacent to an AQMA; or
  - More than 100 AADT elsewhere

4.2.3 Should these criteria not be met, then the guidance document considers air quality impacts associated with a development/scheme to be 'insignificant' and no further assessment is required. However, due to the nature of the proposals (a number of combustion processes), this criterion is going to be exceeded. Therefore, a full impact assessment will be considered when further information is available.

5 Summary & Conclusions

5.1 Baseline

5.1.1 The proposed development is situated within an AQMA for exceedances of the NO_2 annual mean objective and PM_{10} 24-hour mean objective.

5.1.2 DEFRA Background concentrations have been calibrated against local authority background monitoring. Background pollutant concentrations for NO_2, PM_{10} and $PM_{2.5}$ in 2019 are all within the annual mean objectives.

5.2 Operational Phase

5.2.1 The general approach for future AQA, which will supersede this document, has been set out above.

5.2.2 If the future AQA predicts exceedances of any of the air quality objectives / standards, appropriate mitigation measures will be proposed prior to operation.

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