

# VICTORIA HOUSE

## AIR QUALITY STATEMENT

VC-100555-AQ-RP-0001

R00

JULY 2022



# VANGUARDIA

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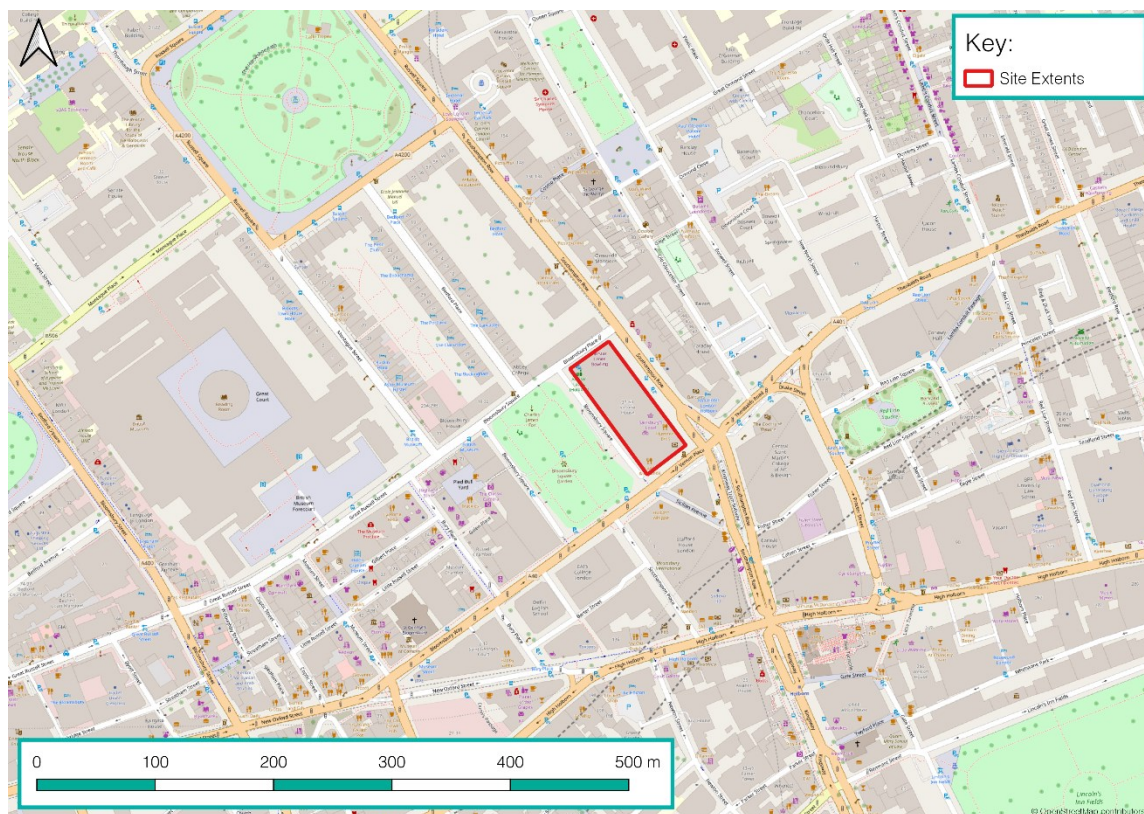
## CONTENTS

CONTENTS	3
1. INTRODUCTION	4
2. LEGISLATION, POLICY & GUIDANCE CONTEXT	6
3. BASELINE CONDITIONS	16
4. ASSESSMENT APPROACH	22
5. SUMMARY & CONCLUSIONS	24

## 1. INTRODUCTION

- 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.

Figure 1 Site Location



- 1.2. The proposals are to convert Victoria House from office space to mix of 50% office and 50% laboratory space.
- 1.3. 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.
- 1.4. At the time of writing, no chemical inventory or detailed information on the diesel generator is available.
- 1.5. 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.

1.6. 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

### EUROPEAN LEGISLATION

- 2.1. 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.
- 2.2. 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. 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 31<sup>st</sup> December 2016<sup>1</sup>.
- 2.3. 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](https://www.legislation.gov.uk) website<sup>2</sup> 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](https://www.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)."*

### NATIONAL LEGISLATION, POLICY AND STRATEGY

- 2.4. Part IV of the Environment Act 1995<sup>3</sup> requires local authorities to review and assess the air quality within their boundaries. As a result, the Air Quality Strategy was adopted in 1997, 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, ozone, particulate matter and sulphur dioxide.

<sup>1</sup> Statutory Instrument, 2016. The Air Quality Standards Regulations, No. 1184. Queen's Printer of Acts of Parliament.

<sup>2</sup> EU legislation and UK law. Accessible at: <https://www.legislation.gov.uk/eu-legislation-and-uk-law>

<sup>3</sup> Department for Environment, Food and Rural Affairs (1995) The Environment Act. HMSO, London.

- 2.5. Part IV of the Environment Act 2021<sup>4</sup> amends both the Environment Act 1995 and the Clean Air Act 1993. 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
- 2.6. 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 particulate matter (PM<sub>2.5</sub>) 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*”.
- 2.7. 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) was published. This was followed by an Addendum in February 2003 and in July 2007, when an updated Air Quality Strategy was published.
- 2.8. 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, taking into account economic considerations, practical and technical feasibility.
- 2.9. The air quality objectives are managed through the 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 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 1** Air Quality Standards

Pollutant	Average Period	Objective	Percentile Equivalent
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Mean	40 µg/m <sup>3</sup>	-
	1-hour Mean	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	99.79
Particles (PM <sub>10</sub> )	Annual Mean	40 µg/m <sup>3</sup>	-
	24-hour Mean	50 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	90.41
Particles (PM <sub>2.5</sub> )	Annual Mean	20 µg/m <sup>3</sup>	-

<sup>4</sup> Department for Environment, Food and Rural Affairs (2021) The Environment Act. HMSO, London.

## NATIONAL POLICY AND STRATEGY

2.10. The National Planning Policy Framework (NPPF) (2021)<sup>5</sup> sets out the planning policy for England, to help achieve sustainable development within the planning sector.

2.11. 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.”*

2.12. 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.*

*[..]”*

2.13. 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.”*

2.14. 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*

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<sup>5</sup> Department of Communities and Local Government (2021). National Planning Policy Framework 2. HMSO, London.



*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.”*

2.15. Paragraph 188 states:

*“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.”*

2.16. 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.

2.17. The NPPF is supported by Planning Practice Guidance (PPG)<sup>6</sup> (DCLG, 2021), which includes guiding principles on how planning can take account of the impacts of new development on air quality.

2.18. 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<sub>10</sub> and PM<sub>2.5</sub>) and nitrogen dioxide (NO<sub>2</sub>).*

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

- *fine particulate matter (PM<sub>2.5</sub>)*
- *ammonia (NH<sub>3</sub>)*
- *nitrogen oxides (NO<sub>x</sub>)*
- *sulphur dioxide (SO<sub>2</sub>)*

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<sup>6</sup> National Planning Practice Guidance web-based resource. Accessible at <https://www.gov.uk/government/collections/planning-practice-guidance>

- 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.”*

2.19. 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:*

- *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”*

## REGIONAL POLICY

### New London Plan

2.20. The London Plan<sup>7</sup> 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.

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

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<sup>7</sup> Greater London Authority, 2021, *The London Plan 2021*.

2.22. 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 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.”*

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

## LOCAL POLICY

### Camden Local Plan

2.24. The Camden Local Plan<sup>8</sup> was adopted in 2017 and has a number of policies which are relevant to this assessment, as set out below:

2.25. *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:*

*[..]*

*d. require mitigation measures where necessary.*

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<sup>8</sup> London Borough of Camden, 2017 *Camden Local Plan 2016 – 2031*

[..]"

2.26. 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

2.27. LBC has also published their own planning guidance<sup>9</sup>. This provides information on air quality in the borough and supports Local Plan Policy CC4 Air Quality.

## STRATEGY

Mayor of London Air Quality Strategy

2.28. The Mayor of London Air Quality Strategy<sup>10</sup> 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.

<sup>9</sup> London Borough of Camden, 2021. *Camden Planning Guidance Air Quality*.

<sup>10</sup> Greater London Authority, 2010. *The Mayor's Air Quality Strategy*.

Mayor of London Environmental Strategy

2.29. The Mayor of London Environment Strategy<sup>11</sup>, 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 Mayors main aim is to create a zero emission London by 2050, and aims to do this by outlining a number of proposals.

2.30. Policy 4.2.1 states:

*"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."*

2.31. Policy 4.2.2 states:

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

2.32. Proposals for these policies promoting 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 and workplaces and large-scale generators.

2.33. Policy 4.3.1 states:

*"The Mayor will establish new targets for PM2.5 and other pollutants where needed. The Mayor will seek to meet these targets as soon as possible, working with government and other partners."*

2.34. 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."*

2.35. 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."*

2.36. Policy 4.3.4 states:

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<sup>11</sup> Greater London Authority, 2018. *London Environment Strategy*.



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

- 2.37. 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 through design measures, preventing poor air quality entering the building are all proposed.

### 3. BASELINE CONDITIONS

#### AIR QUALITY REVIEW AND ASSESSMENT

- 3.1. 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 had been assessed through the national Review and Assessment process, in fulfilment of Part IV of the Environmental Act 1995.
- 3.2. The London Borough of Camden has declared an Air Quality Management Area (AQMA) covering the whole jurisdiction for exceedances of the NO<sub>2</sub> annual mean objective and PM<sub>10</sub> 24-hour mean objective.
- 3.3. The GLA have identified 187 'Air Quality Focus Areas' (AQFAs) where concentrations of NO<sub>2</sub> 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.

#### LOCAL AIR QUALITY MONITORING

- 3.4. The London Borough of Camden have four automatic pollution monitoring sites measuring a mixture of pollutants, including NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. To support this, the council also have a network of non-automatic nitrogen dioxide (NO<sub>2</sub>) diffusion tubes.
- 3.5. Table(s) 2 to 4 set out the monitored concentrations for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> respectively between 2016 and 2020 for the nearest monitoring locations, which are illustrated in Figure 2.

**Table 2** Summary of Nitrogen Dioxide (NO<sub>2</sub>) Monitoring (2016 – 2020)

Site ID	Site Type	Site Name	2016	2017	2018	2019	2020
<b>Automatic Monitors – Annual Mean (µg/m<sup>3</sup>)</b>							
BLO	UB	London Bloomsbury	<b>42</b>	38	36	32	28
<b>Non-automatic Diffusion Tube Monitors – Annual mean (µg/m<sup>3</sup>)</b>							
CA11	K	Tottenham Court Road	<b>84</b>	<b>74</b>	<b>66</b>	<b>61</b>	<b>42</b>
CA21	R	Bloomsbury Street	<b>72</b>	<b>71</b>	<b>59</b>	<b>48</b>	29
<b>Objective</b>			<b>40</b>				

**Automatic Monitors – No. of Hours >200 µg/m<sup>3</sup>**

BLO	UB	London Bloomsbury	0	0	0	0	0
<b>Objective</b>			<b>18</b>				

\***BOLD** indicates exceedance of the objective**Table 3** Summary of Particulate Matter (PM<sub>10</sub>) Monitoring (2016 – 2020)

Site ID	Site Type	Site Name	2016	2017	2018	2019	2020
<b>Automatic Monitors – Annual Mean (µg/m<sup>3</sup>)</b>							
BLO	UB	London Bloomsbury	20	19	17	18	16
KGX	UB/Industrial	Coopers Lane	-	-	15	15	13
<b>Objective</b>			<b>40</b>				

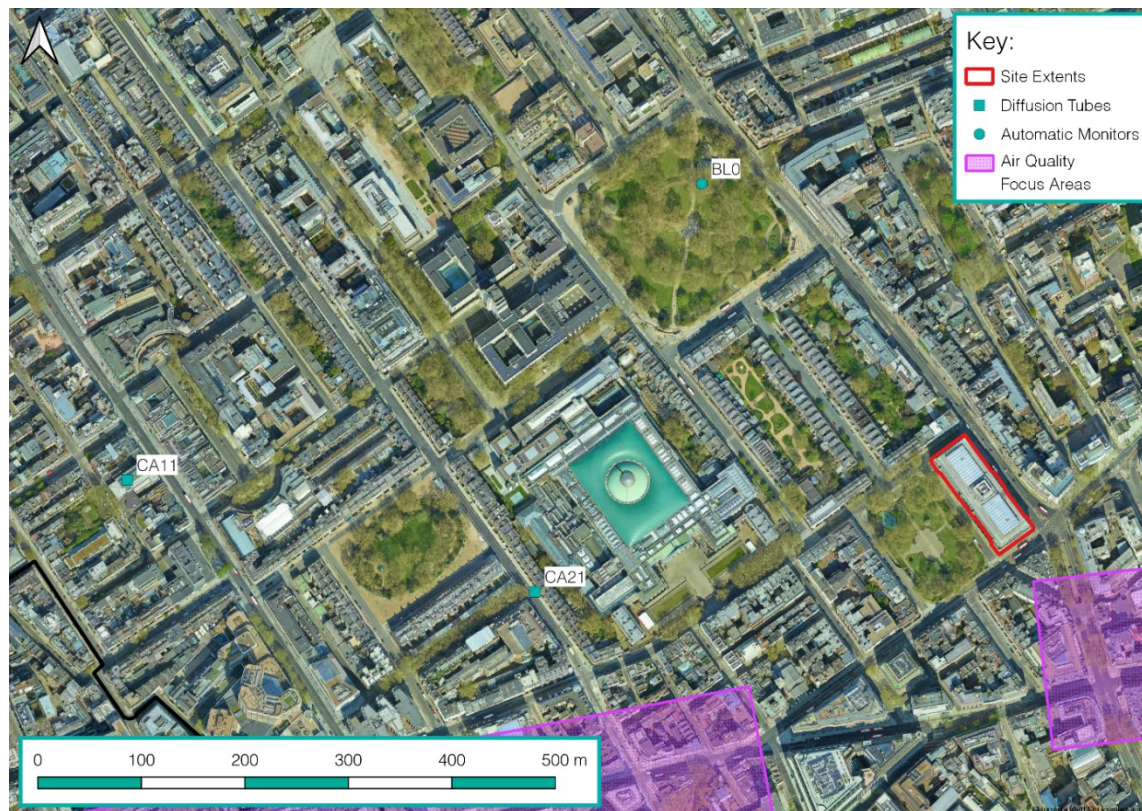
**Automatic Monitors – No. of Days >50 µg/m<sup>3</sup>**

BLO	UB	London Bloomsbury	9	6	1	9	4
KGX	UB/Industrial	Coopers Lane	-	-	1	5	1
<b>Objective</b>			<b>35</b>				

**Table 4** Summary of Particulate Matter (PM<sub>2.5</sub>) Monitoring (2016 – 2020)

Site ID	Site Type	Site Name	2016	2017	2018	2019	2020
<b>Automatic Monitors – Annual Mean (µg/m<sup>3</sup>)</b>							
BLO	UB	London Bloomsbury	12	13	10	11	9
<b>Objective</b>			<b>20</b>				

Figure 2 Monitoring Locations



- 3.6. A review of the measured nitrogen dioxide (NO<sub>2</sub>) concentrations in Table 2 indicates consistent exceedances of the annual mean objective (40 µg/m<sup>3</sup>) 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<sup>3</sup>, indicating the 1-hour mean objective may be being exceeded.
- 3.7. A review of the measured Particulate Matter (PM<sub>10</sub>) concentrations in Table 3 indicates no exceedances of the of the annual mean objective (40 µg/m<sup>3</sup>) or 24-hour mean objective.
- 3.8. A review of the measured Particulate Matter (PM<sub>2.5</sub>) concentrations in Table 4 indicates no exceedances of the of the annual mean objective (20 µg/m<sup>3</sup>).

## BACKGROUND CONCENTRATIONS

- 3.9. The DEFRA website includes estimated background air pollution data for NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> for each 1km by 1km OS grid square<sup>12</sup>. Background pollutant concentrations are modelled from the base year of 2018 and based on ambient monitoring and meteorological data from

<sup>12</sup> Department for Environmental Food and Rural Affairs. Accessible at: <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>

2018 and then projected for future years. Projected pollutant concentrations for the baseline year (2019) for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, covering the closest OS grid square at the previously specified receptors, are provided in Table 8 and have been utilised as part of this assessment.

- 3.10. To note, as per a recent statement from DEFRA<sup>13</sup>, 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.”*

- 3.11. 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.
- 3.12. Background NO<sub>2</sub> concentrations have been calibrated against data measured in 2019 at one urban background automatic monitor and four diffusion tube monitoring sites within LBC. Background PM<sub>10</sub> concentrations have been calibrated against data measured in 2019 at two urban background automatic monitoring sites and background PM<sub>2.5</sub> concentrations have been calibrated against data measured at one urban background automatic monitoring site in LBC.
- 3.13. Measured annual mean NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> 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.
- 3.14. The Background Calibration Factors for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> are set out in Table 5, Table 6 and Table 7 respectively.

**Table 5** NO<sub>2</sub> Background Calibration Factor

NO <sub>2</sub>	Monitoring Sites				
	Automatic Monitor	Diffusion Tube Monitors			
	BLO	CA6	CA28	CA7	CA10

<sup>13</sup> Department for Environment Food & Rural Affairs. Available at: [Background Maps | LAQM \(defra.gov.uk\)](#)

Measured Concentration ( $\mu\text{g}/\text{m}^3$ )	32	24.7	27.7	22.8	33.1
Mapped Concentration ( $\mu\text{g}/\text{m}^3$ )	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				

Notes: Data rounded.

Mapped concentrations taken from the closest grid square derived from the DEFRA background maps for 2019.

**Table 6** PM<sub>10</sub> Background Calibration Factor

PM <sub>10</sub>	Monitoring Sites	
	Automatic Monitors	
	BLO	KGX
Measured Concentration ( $\mu\text{g}/\text{m}^3$ )	18	15
Mapped Concentration ( $\mu\text{g}/\text{m}^3$ )	20.3	19.9
Calibration Factor	0.9	0.8
Average Calibration Factor	0.8	

Notes: Data rounded.

Mapped concentrations taken from the closest grid square derived from the DEFRA background maps for 2019.

**Table 7** PM<sub>2.5</sub> Background Calibration Factor

PM <sub>2.5</sub>	Monitoring Site
	Automatic Monitor
	BLO
Measured Concentration ( $\mu\text{g}/\text{m}^3$ )	11
Mapped Concentration ( $\mu\text{g}/\text{m}^3$ )	12.9
Calibration Factor	0.9
Average Calibration Factor	0.9

Notes: Data rounded.

Mapped concentrations taken from the closest grid square derived from the DEFRA background maps for 2019.

3.15. 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 8.



**Table 8** Estimated Annual Mean Background Pollutant Concentrations ( $\mu\text{g}/\text{m}^3$ )

Pollutant	2019
NO <sub>2</sub>	30.3
PM <sub>10</sub>	16.7
PM <sub>2.5</sub>	11.0

## 4. ASSESSMENT APPROACH

### CAMDEN PLANNING GUIDANCE – AIR QUALITY

- 4.1. The Camden Planning Guidance document for Air Quality sets out a checklist for when an Air Quality Assessment is required.
- 4.2. 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.
- 4.3. 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<sub>2</sub>, a full impact assessment will be considered once the information is available.

### ENVIRONMENTAL PROTECTION UK & INSTITUTE OF AIR QUALITY MANAGEMENT GUIDANCE

- 4.4. Another key guidance that will be used to determine the potential for impacts upon air quality is the Environmental Protection UK (EPUK) & IAQM (2017)<sup>14</sup> *Land-Use Planning and Development Control: Planning for Air Quality* document.
- 4.5. 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:

<sup>14</sup> Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM), 2017. *Land-use Planning & Development Control: Planning for Air Quality*.

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<sup>2</sup> 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
  - The development will have a centralised energy facility or other centralised combustion process.

## Stage 2:

- Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors

4.6. 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

### BASELINE

- 5.1. The proposed development is situated within an AQMA for exceedances of the NO<sub>2</sub> annual mean objective and PM<sub>10</sub> 24-hour mean objective.
- 5.2. DEFRA Background concentrations have been calibrated against local authority background monitoring. Background pollutant concentrations for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> in 2019 are all within the annual mean objectives.

### OPERATIONAL PHASE

- 5.3. The general approach for future AQA, which will supersede this document, has been set out above.
- 5.4. 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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