Air Quality Assessment

Primrose Hill Studios, Camden

Client: Barbara and Rory Campbell-Lange

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Executive Summary

Redmore Environmental Ltd was commissioned by Barbara and Rory Cambell-Lange to undertake an Air Quality Assessment in support of a planning application for a residential development at Studio 12 and Studio 13, Primrose Hill Studios, Camden.

The proposals have the potential to cause air quality impacts as a result of fugitive dust emissions during construction and road traffic exhaust emissions associated with vehicles travelling to and from the site during operation, as well as expose future residents to any existing air quality issues. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and assess potential effects as a result of the development.

Potential construction phase air quality impacts from fugitive dust emissions were assessed as a result of earthworks, construction and trackout activities. It is considered that the use of good practice control measures would provide suitable mitigation for a development of this size and nature and reduce potential impacts to an acceptable level.

The potential for the exposure of future residents to elevated pollution levels was assessed based on the results of a desk-top study. This indicated that pollutant concentrations are likely to be below the relevant criteria at the development location. As such, the site is considered suitable for the proposed use.

During the operational phase of the development there is the potential for air quality impacts as a result of traffic exhaust emissions associated with vehicles travelling to and from the site. These were assessed using standard screening criteria. Due to the scale and nature of the proposals, air quality impacts were not predicted to be significant.

Potential emissions from the development were assessed in order to determine compliance with the air quality neutral requirements of the London Plan. The plant to be installed as part of the building energy strategy does not produce emissions to atmosphere. Additionally, the scheme includes the retention of one car parking space. As such, the development was considered to be air quality neutral.

Based on the assessment results, air quality issues are not considered a constraint to planning consent for the development.

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1.0 INTRODUCTION

1.1 Background

1.1.1 Redmore Environmental Ltd was commissioned by Barbara and Rory Campbell-Lange to undertake an Air Quality Assessment in support of a planning application for a residential development at Studio 12 and Studio 13, Primrose Hill Studios, Camden.

1.1.2 The proposals have the potential to cause air quality impacts as a result of fugitive dust emissions during construction and road traffic exhaust emissions associated with vehicles travelling to and from the site during operation, as well as expose future residents to any existing air quality issues. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and assess potential effects as a result of the development.

1.2 Site Location and Context

1.2.1 The site is located at Studio 12 and Studio 13, Primrose Hill Studios, Camden, at approximate National Grid Reference (NGR): 528084,183870. Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The proposals comprise the construction of a basement connected to Studio 12 and internal remodelling to No.12 and No.13, external alterations to No.13, creation of a new shared amenity space and associated infrastructure.

1.2.3 The site is located within an Air Quality Management Area (AQMA), which has been declared by the London Borough of Camden (LBoC) due to exceedences of the annual mean nitrogen dioxide (NO_2) and 24-hour mean particulate matter with an aerodynamic diameter of less than 10µm (PM_{10}) Air Quality Objectives (AQOs). The development is located within the AQMA. Subsequently, there is the potential that the proposals will introduce future residents to poor air quality. As such, concentrations at the site have been assessed in the following report in order to consider location suitability for the proposed end-use and define any requirement for mitigation. Potential impacts associated with the scheme have also been considered using standard screening methodologies.

2.0 LEGISLATION AND POLICY

2.1 Legislation

2.1.1 The Air Quality Standards Regulations (2010) and subsequent amendments include Air Quality Limit Values (AQLVs) for the following pollutants:

- NO_2;
- Sulphur dioxide;
- Lead;
- PM_{10};
- Particulate matter with an aerodynamic diameter of less than 2.5µm ($PM_{2.5}$);
- Benzene; and,
- Carbon monoxide.

2.1.2 Air quality target values were also provided for several additional pollutants. It should be noted that the AQLV for $PM_{2.5}$ stated in the Air Quality Standards Regulations (2010) was amended in the Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020).

2.1.3 The Air Quality Strategy (AQS) was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published in July 2007[1]. The document contains standards, objectives and measures for improving ambient air quality, including a number of AQOs. These are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedences over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

2.1.4 Table 1 presents the AQOs and AQLVs for pollutants considered within this assessment.

Table 1 Air Quality Objectives/Air Quality Limit Values

Pollutant	Air Quality Objective/Air Quality Limit Value	
	Concentration (µg/m³)	Averaging Period
NO_2	40	Annual mean

[1] The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, DEFRA, 2007.

Pollutant	Air Quality Objective/Air Quality Limit Value	
	Concentration (µg/m³)	Averaging Period
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
$PM_{2.5}$	20	Annual mean

2.1.5 The Environment Act (2021) was published on 9th November 2021 and makes provision for the setting of lower $PM_{2.5}$ targets. The final criteria will be included in legislation to be put before parliament by 31st October 2022. Prior to this time the AQLV outlined in Table 1 remains the adopted air quality standard within the UK.

2.1.6 Table 2 summarises the advice provided in the Greater London Authority (GLA) guidance[2] on where the AQOs for pollutants considered within this report apply.

Table 2 Examples of Where the Air Quality Objectives Apply

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
Annual mean	All locations where members of the public might be regularly exposed Building façades of residential properties, schools (including all of playgrounds), hospitals (and their grounds), care homes (and their grounds) etc.	Building façades of offices or other places of work where members of the public do not have regular access Hotels, unless people live there as their permanent residence Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
24-hour mean	All locations where the annual mean objective would apply, together with hotels	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term

[2] London Local Air Quality Management (LLAQM), Technical Guidance 2019 (LLAQM.TG (2019)), GLA, 2019.

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets) Those parts of car parks, bus stations and railway stations etc which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer	Kerbside sites where the public would not be expected to have regular access

2.2 Local Air Quality Management

2.2.1 Local Authorities (LAs) are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM). This review and assessment of air quality involves comparing present and likely future pollutant concentrations against the AQOs. If it is predicted that levels at locations of relevant exposure, as summarised in Table 2, are likely to be exceeded, the LA is required to declare an AQMA. For each AQMA the LA is required to produce an Air Quality Action Plan (AQAP), the objective of which is to reduce pollutant concentrations in pursuit of the AQOs.

2.3 Dust

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

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

2.3.2 Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the LA is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of

the Environmental Protection Act (1990). The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practicable means.

2.4 National Planning Policy

2.4.1 The revised National Planning Policy Framework[3] (NPPF) was published in July 2021 and sets out the Government's planning policies for England and how these are expected to be applied.

2.4.2 The purpose of the planning system is to contribute to the achievements of sustainable development. In order to ensure this, the NPPF recognises three overarching objectives including the following of relevance to air quality:

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

2.4.3 Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. It states that:

> "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 […]"

[3] NPPF, Ministry of Housing, Communities and Local Government, 2021.

2.4.4 The NPPF specifically recognises air quality as part of delivering sustainable development and states that:

> "Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

2.4.5 The implications of the NPPF have been considered throughout this assessment.

2.5 National Planning Practice Guidance

2.5.1 The National Planning Practice Guidance[4] (NPPG) web-based resource was launched by the Department for Communities and Local Government on 6th March 2014 and updated on 1st November 2019 to support the NPPF and make it more accessible. The air quality pages are summarised under the following headings:

1. What air quality considerations does planning need to address?
2. What is the role of plan-making with regard to air quality?
3. Are air quality concerns relevant to neighbourhood planning?
4. What information is available about air quality?
5. When could air quality considerations be relevant to the development management process?
6. What specific issues may need to be considered when assessing air quality impacts?
7. How detailed does an air quality assessment need to be?
8. How can an impact on air quality be mitigated?

[4] https://www.gov.uk/guidance/air-quality--3.

2.5.2 These were reviewed and the relevant guidance considered as necessary throughout the undertaking of this assessment.

2.6 Local Planning Policy

The London Plan

2.6.1 The London Plan 2021[5] is the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth. Review of this document indicated the following of relevance to this report:

> "Policy SI 1 - Improving Air Quality
>
> 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 exceedence of legal limits
> c) create unacceptable risk of high levels of exposure to poor air quality.
> 2. In order to meet the requirements of Part 1, as a minimum:
> a) development proposals must be at least Air Quality Neutral
> b) development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retro-fitted mitigation measures.

[5] The London Plan March 2021, GLA, 2021.

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:
a) How proposals have considered ways to maximise benefits to local air quality, and
b) 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."

2.6.2 The requirements of these policies have been considered throughout this Air Quality Assessment.

Sustainable Design and Construction Supplementary Planning Guidance

2.6.3 The Sustainable Design and Construction Supplementary Planning Guidance (SPG)[6] was published by the GLA in April 2014. The document aims to support developers, local planning authorities and neighbourhoods to achieve sustainable development, as well as providing guidance on to how to achieve the London Plan objectives effectively.

2.6.4 The document provides guidance on the following key areas when undertaking an Air Quality Assessment:

- Assessment requirements;
- Construction and demolition;
- Design and occupation;
- Air Quality Neutral policy for buildings and transport, and,
- Emissions standards for combustion plant.

2.6.5 These key areas were taken into consideration during the undertaking of this assessment.

Local Planning Policy

2.6.6 The Local Plan[7] was adopted by the LBoC on 3rd July 2017. This provides the basis for planning decisions and development in the borough, covering the period from 2016 to 2031. A review of the document indicated the following policies of relevance to the assessment:

> "Policy A1 Managing the impact of development
>
> 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:

6 Sustainable Design and Construction SPG, GLA, 2014.

7 Local Plan, LBoC, 2017.

a. seek to ensure that the amenity of communities, occupiers and neighbours is protected;
b. seek to ensure development contributes towards strong and successful communities by balancing the needs of development with the needs and characteristics of local areas and communities;
c. resist development that fails to adequately assess and address transport impacts affecting communities, occupiers, neighbours and the existing transport network; and
d. require mitigation measures where necessary.

The factors we will consider include:

[…]

i. Impacts of the construction phase, including the use of Construction Management Plans

[...]"

"Policy CC4 Air Quality

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."

2.6.7 The Camden Planning Guidance (CPG) Air Quality[8] document has also been produced to support the policies of the Camden Local Plan[9].

2.6.8 The above policies and document were considered throughout the assessment as necessary.

8 CPG Air Quality, LBoC, 2021.

9 Local Plan, LBoC, 2017.

3.0 METHODOLOGY

3.1 Introduction

3.1.1 The proposed development has the potential to cause air quality impacts during the construction and operational phases, as well as expose future residents to elevated pollution levels. These issues have been assessed in accordance with the CPG[10], as shown in the following methodology.

3.2 Construction Phase Assessment

3.2.1 There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the Mayor of London's 'The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance'[11].

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

- Earthworks;
- Construction; and,
- Trackout.

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

- Annoyance due to dust soiling;
- Harm to ecological receptors; and,
- The risk of health effects due to a significant increase in exposure to PM_{10}.

3.2.4 The assessment steps are detailed below.

[10] CPG Air Quality, LBoC, 2021.

[11] The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance, The Mayor of London, 2014.

Step 1

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

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

Step 2

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

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

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

3.2.9 Step 2A defines the potential magnitude of dust emission through the construction phase. The relevant criteria are summarised in Table 3.

Table 3 Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
Large	Earthworks	• Total site area greater than 10,000m^2 • Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) • More than 10 heavy earth moving vehicles active at any one time • Formation of bunds greater than 8m in height • More than 100,000 tonnes of material moved

Magnitude	Activity	Criteria
	Construction	• Total building volume greater than 100,000m^3 • On site concrete batching • Sandblasting
	Trackout	• More than 50 Heavy Duty Vehicle (HDV) trips per day • Potentially dusty surface material (e.g. high clay content) • Unpaved road length greater than 100m
Medium	Earthworks	• Total site area 2,500m^2 to 10,000m^2 • Moderately dusty soil type (e.g. silt) • 5 to 10 heavy earth moving vehicles active at any one time • Formation of bunds 4m to 8m in height • Total material moved 20,000 tonnes to 100,000 tonnes
	Construction	• Total building volume 25,000m^3 to 100,000m^3 • Potentially dusty construction material (e.g. concrete) • On site concrete batching
	Trackout	• 10 to 50 HDV trips per day • Moderately dusty surface material (e.g. high clay content) • Unpaved road length 50m to 100m
Small	Earthworks	• Total site area less than 2,500m^2 • Soil type with large grain size (e.g. sand) • Less than 5 heavy earth moving vehicles active at any one time • Formation of bunds less than 4m in height • Total material moved less than 20,000 tonnes • Earthworks during wetter months
	Construction	• Total building volume less than 25,000m^3 • Construction material with low potential for dust release (e.g. metal cladding or timber)
	Trackout	• Less than 10 HDV trips per day • Surface material with low potential for dust release • Unpaved road length less than 50m

3.2.10 Step 2B defines the sensitivity of the area around the development to potential dust impacts. The influencing factors are shown in Table 4.

Table 4 Construction Dust - Examples of Factors Defining Sensitivity of an Area

Receptor Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	• Users expect high levels of amenity • High aesthetic or value property • People expected to be present continuously for extended periods of time • Locations where members of the public are exposed over a time period relevant to the AQO for PM_{10}. e.g. residential properties, hospitals, schools and residential care homes	• Internationally or nationally designated site e.g. Special Area of Conservation
Medium	• Users would expect to enjoy a reasonable level of amenity • Aesthetics or value of their property could be diminished by soiling • People or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land e.g. parks and places of work	• Nationally designated site e.g. Sites of Special Scientific Interest
Low	• Enjoyment of amenity would not reasonably be expected • Property would not be expected to be diminished in appearance • Transient exposure, where people would only be expected to be present for limited periods. e.g. public footpaths, playing fields, shopping streets, farmland, short term car parks and roads	• Locally designated site e.g. Local Nature Reserve

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

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

- Any known specific receptor sensitivities which go beyond the classifications given in the document.

3.2.12 These factors were considered in the undertaking of this assessment.

3.2.13 The criteria for determining the sensitivity of the area to dust soiling effects on people and property is summarised in Table 5.

Table 5 Construction Dust - Sensitivity of the Area to Dust Soiling Effects on People and Property

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

3.2.14 Table 6 outlines the criteria for determining the sensitivity of the area to human health impacts.

Table 6 Construction Dust - Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Background Annual Mean PM_{10} Concentration	Number of Receptors	Distance from the Source (m)				
			Less than 20	Less than 50	Less than 100	Less than 200	Less than 350
High	Greater than 32µg/m^3	More than 100	High	High	High	Medium	Low
		10 - 100	High	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low	Low
	28 - 32µg/m^3	More than 100	High	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low	Low

Receptor Sensitivity	Background Annual Mean PM_{10} Concentration	Number of Receptors	Distance from the Source (m)				
			Less than 20	Less than 50	Less than 100	Less than 200	Less than 350
		1 - 10	High	Medium	Low	Low	Low
	24 - 28µg/m^3	More than 100	High	Medium	Low	Low	Low
		10 - 100	High	Medium	Low	Low	Low
		1 - 10	Medium	Low	Low	Low	Low
	Less than 24µg/m^3	More than 100	Medium	Low	Low	Low	Low
		10 - 100	Low	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
Medium	-	More than 10	High	Medium	Low	Low	Low
	-	1 - 10	Medium	Low	Low	Low	Low
Low	-	1 or more	Low	Low	Low	Low	Low

3.2.15 Table 7 outlines the criteria for determining the sensitivity of the area to ecological impacts.

Table 7 Construction Dust - Sensitivity of the Area to Ecological Impacts

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

3.2.16 Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts.

3.2.17 Table 8 outlines the risk category from earthworks and construction activities.

Table 8 Construction Dust - Dust Risk Category from Earthworks and Construction Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

3.2.18 Table 9 outlines the risk category from trackout activities.

Table 9 Construction Dust - Dust Risk Category from Trackout Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Low	Negligible
Low	Low	Low	Negligible

Step 3

3.2.19 Step 3 requires the identification of site specific mitigation measures within the Mayor of London's guidance[12] to reduce potential dust impacts based upon the relevant risk categories identified in Step 2. For sites with **negligible** risk, mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

Step 4

3.2.20 Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of

[12] The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance, The Mayor of London, 2014.

effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be **not significant**.

3.2.21 The determination of significance relies on professional judgement and reasoning should be provided as far as practicable. The Mayor of London's guidance[13] suggests the provision of details of the assessor's qualifications and experience. These are provided in Appendix 2.

3.3 Operational Phase Assessment

Potential Future Exposure

3.3.1 The proposed development comprises residential land use. This is considered a location of relevant exposure for long and short term AQOs in accordance with the criteria provided within GLA guidance[14], as summarised in Table 2. Existing air quality conditions at the site were therefore assessed through consideration of the following factors:

- AQMA designations;
- Proximity to significant pollution sources;
- Local monitoring results; and,
- Background pollutant concentration predictions.

3.3.2 The findings were subsequently used to determine the potential for AQO exceedences at the development location. Should the assessment indicate significant uncertainty over air quality conditions at the site then further quantitative methods, such as detailed dispersion modelling, could be utilised to refine predictions.

Potential Development Impacts

3.3.3 The development has the potential to increase concentrations of NO_2, PM_{10} and $PM_{2.5}$ as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site during the operational phase. A screening assessment was therefore undertaken

[13] The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance, The Mayor of London, 2014.

[14] London Local Air Quality Management (LLAQM), Technical Guidance 2019 (LLAQM.TG (2019)), GLA, 2019.

using the criteria contained within the Institute of Air Quality Management (IAQM) 'Land-Use Planning & Development Control: Planning for Air Quality''[15] guidance to determine the potential for trips generated by the development to affect local air quality.

3.3.4 The following criteria are provided to help establish when an assessment of potential impacts on the local area is likely to be considered necessary:

A. If any of the following apply:

- 10 or more residential units or a site area of more than 0.5ha; or,
- more than 1,000m^2 of floor space for all other uses or a site area greater than 1ha.

B. 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.

3.3.5 Should these criteria not be met, then the IAQM guidance[16] considers air quality impacts associated with a scheme to be **not significant** and no further assessment is required.

3.3.6 Should screening of the relevant data indicate that the above criteria are met, then potential impacts at sensitive receptor locations can be assessed by calculating the change in pollutant concentrations as a result of the proposed development. The significance of predicted impacts can then be determined in accordance with the methodology outlined in the IAQM guidance[17].

15 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

16 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

17 Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

4.0 BASELINE

4.1 Introduction

4.1.1 Existing air quality conditions in the vicinity of the proposed development were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

4.2 Local Air Quality Management

4.2.1 As required by the Environment Act (1995), LBoC has undertaken Review and Assessment of air quality within their area of jurisdiction. This process has indicated that annual mean concentrations of NO_2 and 24-hour mean concentrations of PM_{10} are above the relevant AQOs within the borough. As such, one AQMA has been declared. This is described as follows:

"The whole borough."

4.2.2 The development is located within the AQMA. As such, there is the potential for exposure of future residents to elevated pollution levels and vehicles travelling to and from the site to increase pollution levels in this sensitive area. This has been considered throughout the assessment.

4.2.3 LBoC has concluded that concentrations of all other pollutants considered within the AQS are currently below the relevant AQOs. As such, no further AQMAs have been designated.

4.3 Air Quality Monitoring

4.3.1 Monitoring of pollutant concentrations is undertaken by LBoC throughout their area of jurisdiction. Recent NO_2 results recorded in the vicinity of the development are shown in Table 10. Exceedences of the AQO are shown in **bold**.

Table 10 Monitoring Results

Monitoring Site		Monitored NO_2 Concentration (µg/m³)		
		2018	2019	2020
CTLEN5	Kentish Town Road	-(a)	**44.00**	33.00
CTLEN6	Hawley Crescent	-(a)	38.02	31.49
CTLEN7	Jamestown Road	-(a)	37.84	29.16
CTLEN8	Camden High Street (Bridge)	-(a)	**40.53**	32.3
CTLEN9	Camden High Street (Camden News)	-(a)	37.93	29.78
CTLEN10	Camden High Street (American Candy)	-(a)	**46.58**	36.89
CTLEN11	Britannia Junction	-(a)	**52.69**	39.74
CTLEN12	Cavendish School (Arlington Road)	-(a)	33.21	26.26

Note: (a) Monitor commissioned in 2019.

4.3.2 As shown in Table 10, annual mean NO_2 concentrations were above the AQO of 40µg/m³ at CTLEN5, CTLEN8, CTLEN10 and CTLEN11 during 2019. As these monitors are located at roadside positions in an AQMA, elevated levels would be expected. Concentrations were below the AQO at all remaining positions in recent years. Reference should be made to Figure 2 for a map of the survey positions.

4.3.3 Pollutant concentrations during 2020 were lower than previous years due to a reduction in traffic and associated emissions caused by the COVID-19 pandemic. The results should therefore be viewed with caution.

4.3.4 LBoC do not undertake monitoring of PM_{10} or $PM_{2.5}$ concentrations within the vicinity of the site.

4.4 Background Pollutant Concentrations

4.4.1 Predictions of background pollutant concentrations on a 1km by1km grid basis have been produced by DEFRA for the entire of the UK to assist LAs in their Review and Assessment of air quality. The proposed development site is located in grid square NGR:

528500, 183500. Data for this location was downloaded from the DEFRA website[18] for the purpose of the assessment and is summarised in Table 11.

Table 11 Background Pollutant Concentration Predictions

Pollutant	Predicted 2022 Background Pollutant Concentration (µg/m³)
NO_2	26.82
PM_{10}	17.77
$PM_{2.5}$	11.48

4.4.2 As shown in Table 11, predicted background NO_2, PM_{10} and $PM_{2.5}$ concentrations are below the relevant AQOs and AQLV at the development site.

4.5 Sensitive Receptors

4.5.1 A sensitive receptor is defined as any location which may be affected by changes in air quality as a result of a development. Receptors sensitive to potential dust impacts during earthworks and construction were identified from a desk-top study of the area up to 350m from the development boundary. These are summarised in Table 12.

Table 12 Earthworks and Construction Dust Sensitive Receptors

Distance from Site Boundary (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	10 - 100	0
Up to 50	More than 100	0
Up to 100	More than 100	-
Up to 350	More than 100	-

4.5.2 Receptors sensitive to potential dust impacts from trackout were identified from a desk-top study of the area up to 50m from the road network within 500m of the site access. These are summarised in Table 13.

[18] http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018.

Table 13 Trackout Dust Sensitive Receptors

Distance from Site Access Route (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	More than 100	0
Up to 50	More than 100	0

4.5.3 There are no ecological receptors within 50m of the development boundary or the access route within 500m of the site entrance. As such, ecological impacts have not been assessed further within this report.

4.5.4 A number of additional factors have been considered when determining the sensitivity of the surrounding area. These are summarised in Table 14.

Table 14 Additional Area Sensitivity Factors to Potential Fugitive Dust Impacts

Guidance	Comment
Whether there is any history of dust generating activities in the area	A review of Google Maps imagery indicated a Morrisons Supermarket has recently been demolished approximately 350m north-east of the site. It is possible that demolition of the structure may have caused dust generation in the area over recent months
The likelihood of concurrent dust generating activity on nearby sites	A review of the planning portal indicated that a number of applications have recently been submitted in the vicinity of the site. It is therefore possible that there will be concurrent dust generation should these be granted permission and the construction phases overlap with the proposed development
Pre-existing screening between the source and the receptors	Trees and shrubs are located along the south-eastern site boundary. These may act as a barrier between emission sources and receptors should they be retained during the construction phase
Conclusions drawn from analysing local meteorological data which accurately represent the area: and if relevant the season during which works will take place	As shown in Figure 3, the predominant wind bearing at the site is from the south-west. As such, receptors to the north-east of the boundary are most likely to be affected by dust releases
Conclusions drawn from local topography	There are no significant topographical constraints to dust dispersion

Guidance	Comment
Duration of the potential impact, as a receptor may become more sensitive over time	Currently it is unclear as to the duration of the construction phase. However, it is possible that it will extend over one year. The sensitivity of nearby receptors is unlikely to change during this time
Any known specific receptor sensitivities which go beyond the classifications given in the document	No specific receptor sensitivities identified during the baseline assessment

4.5.5 Based on the criteria shown in Table 4, the sensitivity of the receiving environment to potential dust impacts was determined as **high**. This was because the identified receptors included residential properties.

4.5.6 The sensitivity of the receiving environment to specific potential dust impacts, based on the criteria shown in Section 3.2, is shown in Table 15.

Table 15 Sensitivity of the Surrounding Area to Potential Dust Impacts

Potential Impact	Sensitivity of the Surrounding Area to Potential Dust Impacts		
	Earthworks	Construction	Trackout
Dust Soiling	High	High	High
Human Health	High	High	High

5.0 ASSESSMENT

5.1 Introduction

5.1.1 There is the potential for air quality impacts as a result of the construction and operation of the proposed development, as well as exposure of future residents to existing air quality issues. These factors are assessed in the following Sections.

5.2 Construction Phase Assessment

Step 1

5.2.1 The undertaking of activities such as excavation, ground works, cutting, construction, concrete batching and storage of materials has the potential to result in fugitive dust emissions throughout the construction phase. Vehicle movements on the local road network also have the potential to result in the re-suspension of dust from highway surfaces.

5.2.2 The potential for impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.

5.2.3 The desk-study undertaken to inform the baseline identified a number of sensitive receptors within 350m of the site boundary. As such, a detailed assessment of potential dust impacts was required.

Step 2

Earthworks

5.2.4 Earthworks will primarily involve excavating material, haulage, tipping and stockpiling, as well as site levelling and landscaping. The area of construction is less than 2,500m^2. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from earthworks is therefore **small**.

5.2.5 Table 15 indicates the sensitivity of the area to dust soiling effects on people and property is **high**. In accordance with the criteria outlined in Table 8, the development is considered to be a **low** risk site for dust soiling as a result of earthworks.

5.2.6 Table 15 indicates the sensitivity of the area to human health impacts is **high**. In accordance with the criteria outlined in Table 8, the development is considered to be a **low** risk site for human health impacts as a result of earthworks.

Construction

5.2.7 The total proposed building volume is less than 25,000m^3. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from construction is therefore **small**.

5.2.8 Table 15 indicates the sensitivity of the area to dust soiling effects on people and property is **high**. In accordance with the criteria outlined in Table 8, the development is considered to be a **low** risk site for dust soiling as a result of construction activities.

5.2.9 Table 15 indicates the sensitivity of the area to human health impacts is **high**. In accordance with the criteria outlined in Table 8, the development is considered to be a **low** risk site for human health impacts as a result of construction activities.

Trackout

5.2.10 Based on the site area and existing hard standing provisions, it is anticipated that the unpaved road length will be less than 50m. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from trackout is therefore **small**.

5.2.11 Table 15 indicates the sensitivity of the area to dust soiling effects to people and property is **high**. In accordance with the criteria outlined in Table 9, the development is considered to be a **low** risk site for dust soiling as a result of trackout activities.

5.2.12 Table 15 indicates the sensitivity of the area to human health impacts is **high**. In accordance with the criteria outlined in Table 9, the development is considered to be a **low** risk site for human health impacts as a result of trackout activities.

Summary of the Risk of Dust Effects

5.2.13 A summary of the risk from each dust generating activity is provided in Table 16.

Table 16 Summary of Potential Unmitigated Dust Risks

Potential Impact	Risk		
	Earthworks	Construction	Trackout
Dust Soiling	Low	Low	Low
Human Health	Low	Low	Low

5.2.14 As indicated in Table 16, the potential risk of dust soiling is **low** from earthworks, construction and trackout. The potential risk of human health impacts is **low** from earthworks, construction and trackout.

5.2.15 It should be noted that the potential for impacts depends significantly on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the site boundary closest to each sensitive area. Therefore, actual risk is likely to be lower than that predicted during the majority of the construction phase.

Step 3

5.2.16 The Mayor of London's guidance[19] provides potential mitigation measures to reduce impacts as a result of fugitive dust emissions during the construction phase. These have been adapted for the development site as summarised in Table 17. These may be reviewed prior to the commencement of construction works and incorporated into a Construction Environmental Management Plan if required by the LA.

[19] The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance, The Mayor of London, 2014.

Table 17 Fugitive Dust Emission Mitigation Measures

Issue	Control Measure
Site management	• Display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary • Display the head or regional office contact information • Record and respond to all dust and air quality pollutant emissions complaints • Make the complaints log available to the LA upon request • Carry out regular site inspections, record inspection results, and make an inspection log available to the LA upon request • Increase the frequency of site inspections when activities with a high potential to produce dust and emissions and dust are being carried out, and during prolonged dry or windy conditions • Record any exceptional incidents, either on or off the site, and the action taken to resolve the situation is recorded in the log book
Preparing and maintaining the site	• Plan site layout: machinery and dust causing activities should be located away from receptors • Erect solid screens or barriers around dust activities or the site boundary that are, at least, as high as any stockpiles on site • Avoid site runoff of water or mud
Operating vehicle/machinery and sustainable travel	• Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone • Ensure all Non-Road Mobile Machinery comply with the relevant standards • 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
Operations	• Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques • Ensure an adequate water supply on the site for effective dust/particulate matter mitigation (using recycled water where possible) • Use enclosed chutes and conveyors and covered skips • Minimise drop heights and use fine water sprays wherever appropriate
Waste management	• Reuse and recycle waste to reduce dust from waste materials • Avoid bonfires and burning of waste materials
Construction	• Avoid scabbling (roughening of concrete surfaces) if possible • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out
Trackout	• Ensure vehicles entering and leaving site are covered to prevent escape of materials • Implement a wheel washing system, if required

Step 4

5.2.17 Assuming the relevant mitigation measures outlined in Table 17 are implemented, the residual impacts from all dust generating activities are predicted to be **not significant**, in accordance with the Mayor of London's guidance[20].

5.3 Operational Phase Assessment

Potential Future Exposure

5.3.1 The proposed development has the potential to introduce new receptors into an area of poor air quality. Existing conditions at the site are therefore considered in the following Sections.

AQMA Designation

5.3.2 The site is located within an AQMA which has been declared due to exceedences of the annual mean AQO for NO_2 and 24-hour mean AQO for PM_{10}. The designation does not cover 1-hour NO_2 or annual mean PM_{10}, indicating exceedences of these AQOs have not been identified within LBoC's administrative extents. As such, they have not been considered further in the context of this assessment.

5.3.3 Although the site is located within the AQMA, it is likely that there are some locations within the designation that do not experience exceedences of the relevant AQOs. This is shown in the 2019 monitoring results, as reported in the LBoC Air Quality Annual Status Report[21] (ASR), which indicates compliance with the annual mean AQO for NO_2 at 19 out of 36 sites within the AQMA, including those within the vicinity of the site.

5.3.4 A review of the LBoC ASR[22] also indicated that there were no exceedences of the 24-hour mean AQO for PM_{10} in recent years. As such, it is unlikely that the AQO will be exceeded at the development.

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20 The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance, The Mayor of London, 2014.

21 LBoC Air Quality ASR, LBoC, 2020.

22 LBoC Air Quality ASR, LBoC, 2020.

5.3.5 In summary, although AQO exceedences are considered possible at the site based on the AQMA, they are not certain.

Proximity to Significant Pollution Sources

5.3.6 A desk-top study was undertaken in order to identify any significant pollution sources within the vicinity of the site. The findings are provided in Table 18.

Table 18 Significant Pollution Sources

Source	Distance to Site (m)	Comment
Kingstown Street	Adjacent	Kingstown Street is an unclassified minor road and is unlikely to be subject to high volumes of traffic
Fitzroy Road	45	Fitzroy Road is an unclassified minor road and is unlikely to be subject to high volumes of traffic
Regents Park Road	70	Regents Park Road is an unclassified road with an Annual Average Daily Traffic (AADT) flow of 10,453 and HDV proportion of fleet 2.42% during 2019[a]
A5205 Prince Albert Road	185	The A5205 Prince Albert Road is a classified 'A' Road with an AADT flow of 22,354 and HDV proportion of fleet 12.22% during 2019[b]. Moderate levels of congestion are experienced during peak hours. However, the road is relatively free flowing for the majority of the day[c]

Note: (a) Source: London Atmospheric Emissions Inventory (LAEI): Toid Number - 4000000030355009.
(b) Source: LAEI: Toid Number - 4000000030097599.
(c) Source: https://www.google.co.uk/maps.

5.3.7 As shown in Table 18, there are four road vehicle emission sources within the vicinity of the development. Kingstown Street is an unclassified road providing limited access to a small number of residential dwellings. Fitzroy Road and Regents Park Road are minor in nature and are unlikely to contribute significantly to pollution levels above background. The A5205 Prince Albert Road is likely to contribute to elevated concentrations close to the kerb. However, given the distance between the road and the development, levels are likely to be significantly lower and closer to background concentrations across the site.

Local Monitoring Results

5.3.8 There are eight monitors located in the vicinity of the development. CTLEN8, CTLEN9, CTLEN10 and CTLEN11 are located adjacent to the A502 Camden High Street

approximately 675m north-east of the site boundary. As the monitors are positioned in close proximity to the A502, concentrations are not considered to be representative of conditions at the development.

5.3.9 The CTLEN5 monitor is located approximately 860m north-east of development at a roadside position on Charing Cross Road. Charing Cross Road is a one-way system and links the A502 Camden High Street to the A5200 and provides access to a large number of routes. Due to the position of this monitor, concentrations recorded at this site are not considered to accurately represent conditions at the proposals.

5.3.10 CTLEN6 is located on Hawley Crescent, approximately 630m north-east of the site. Howley Crescent is a minor road that provides access to a number of residential units, as well as linking Dartmouth Park Hill to Charing Cross Road. Given the location of the monitor, conditions are not considered representative of the proposed development.

5.3.11 CTLEN7 and CTLEN12 are located approximately 625m and 670m east of the development site, respectively. As shown in Table 10, the recorded annual mean NO_2 concentrations were below the AQO in 2019. The monitors are situated on an unclassified road, approximately 85m from the A502 Camden High Street. As the proposed site is situated approximately 185m from the closest significant emission source, A5202 Prince Albert Road, concentrations are predicted to be lower or similar to the monitoring results.

5.3.12 As noted above, there were no exceedences of the 24-hour AQO for PM_{10} at any location of relevant exposure within LBoC during 2019.

5.3.13 Based on the above, exceedences of the relevant AQOs are considered unlikely at the development location.

Background Pollutant Concentration Predictions

5.3.14 As shown in Table 11, predicted background pollutant concentrations for the site were well below the AQOs during 2022.

5.3.15 In addition, the annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations recorded at the BL0 - London Bloomsbury urban background continuous analyser during 2019 were 32µg/m^3,

18µg/m^3 and 11µg/m^3, respectively. These values are below the relevant AQOs and AQLV.

5.3.16 Based on the predicted background concentrations and 2019 urban background monitoring results, exceedences of the AQOs and AQLV are considered unlikely at the development location.

Summary

5.3.17 It is considered likely that pollutant concentrations are below the relevant AQO at the proposed development site for the following reasons:

- Although the site is within an AQMA, recent monitoring has indicated compliance with the relevant AQOs at a number of locations within the designation;
- The site is distanced from major pollutant sources;
- Review of local monitoring results has indicated likely compliance with the AQOs for NO_2 at the development; and,
- Predicted and monitored background concentrations are well below the relevant AQOs.

5.3.18 Based on the assessment results, exposure of future residents to exceedences of the relevant AQOs is not considered likely. As such, the site is considered suitable for the proposed use from an air quality perspective.

Potential Development Impacts

5.3.19 Any vehicle movements associated with the development will generate exhaust emissions on the local and regional road networks. The development comprises one residential unit and the retention of one car parking space. As such, potential air quality impacts associated with operational phase road vehicle exhaust emissions are predicted to be **not significant**, in accordance with the IAQM[23] screening criteria shown in Section 3.3.

[23] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

5.4 Camden Planning Guidance Air Quality

5.4.1 LBoC have produced the CPG Air Quality[24] document to support the policies in the Local Plan[25]. The guidance provides a methodology for determining the required level of assessment for developments and associated mitigation measures.

5.4.2 The first step is to determine the level of assessment required based on the criteria outlined in Table 19.

Table 19 Assessment Requirement Criteria

Criteria	Comment
Development scale	The development was classified as a **minor** site as the proposals are for fewer than 10 residential dwellings
Development within an area of poor air quality	As summarised in Section 5.3, the potential for the exposure of future residents to elevated pollution levels was assessed based on the results of a desktop study. This indicated that pollutant concentrations are likely to be below the relevant AQOs at the development
Development introduces new sensitive receptors	The scheme comprises residential units, new sensitive receptors will therefore be introduced
Development results in air quality impacts	The development will not result in air quality impacts as the development comprises the retention of one car parking space and will not introduce any new combustion sources

5.4.3 In accordance with the information in Table 19, a detailed assessment is not required. However, in order to determine the potential for exposure of new residents to poor air quality, a desk-top study has been undertaken. This indicated that exposure of future residents to poor air quality is not considered likely. As such, the site is considered suitable for the proposed end-use without the inclusion of mitigation.

[24] CPG Air Quality, LBoC, 2021.

[25] Local Plan, LBoC, 2017.

6.0 AIR QUALITY NEUTRAL ASSESSMENT

6.1 Introduction

6.1.1 The London Plan[26] requires that all developments are 'air quality neutral' to ensure proposals do not lead to further deterioration of existing poor air quality. In order to support the policy, guidance[27] has been produced on behalf of the GLA. The document provides a methodology for determining potential emissions from a development and benchmark values for comparison purposes. Where the benchmark is exceeded then action is required, either locally or by way of off-setting.

6.1.2 The Air Quality Neutral Assessment for the proposed development is outlined below. It is noted that new guidance[28] has recently been released for consultation. However, this is only in draft form and therefore was not considered in the context of the assessment.

6.2 Building Emissions

6.2.1 Heating and hot water for the development will be provided by Air Source Heat Pumps (ASHPs). These do not produce emissions to atmosphere. As such, the proposals are considered air quality neutral from a building emissions perspective.

6.3 Transport Emissions

6.3.1 As discussed previously, the proposals include the retention of one car parking space. As such, the development is not anticipated to produce any additional daily vehicle movements. The scheme is therefore considered air quality neutral from a transport emissions perspective.

6.4 Summary

6.4.1 Potential emissions from the development were assessed in order to determine compliance with the air quality neutral requirements of the London Plan. The building

26 The London Plan March 2021, GLA, 2021.

27 Air Quality Neutral Planning Support Update: GLA 80371, Air Quality Consultants and Environ, 2014.

28 London Plan Guidance: Air Quality Neutral Consultation Draft, GLA, 2021.

energy strategy includes the use of ASHPs, which do not produce emissions to atmosphere. Additionally, the scheme includes the retention of one car parking space. As such, the proposals are considered air quality neutral.

7.0 CONCLUSION

7.1.1 Redmore Environmental Ltd was commissioned by Barbara and Rory Cambell-Lange to undertake an Air Quality Assessment in support of a planning application for a basement connected to Studio 12, internal remodelling to No.12 and No.13, external alterations to No.13, creation of a new shared amenity space and associated infrastructure at Studio 12 and Studio 13, Primrose Hill Studios, Camden.

7.1.2 The proposals have the potential to cause air quality impacts as a result of fugitive dust emissions during construction and road traffic exhaust emissions associated with vehicles travelling to and from the site during operation, as well as expose future residents to any existing air quality issues. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and assess potential effects as a result of the development.

7.1.3 During the construction phase of the development there is the potential for air quality impacts as a result of fugitive dust emissions from the site. These were assessed in accordance with the Mayor of London's methodology. Assuming good practice dust control measures are implemented, the residual significance of potential air quality impacts from dust generated by earthworks, construction and trackout activities was predicted to be **not significant**.

7.1.4 The potential for exposure of future residents to exceedences of the AQOs was assessed based on the AQMA designation, proximity of pollution sources to the site, local monitoring results and predicted background concentrations. This indicated that concentrations of NO_2 and PM_{10} are likely to be below the relevant AQOs at the development location. As such, the site is considered suitable for the proposed use from an air quality perspective.

7.1.5 Potential impacts during the operational phase of the proposed development may occur due to road traffic exhaust emissions associated with vehicles travelling to and from the site. These were assessed against the screening criteria provided within the IAQM[29] guidance document. Due to the scale and nature of the proposals, impacts were predicted to be **not significant**.

[29] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

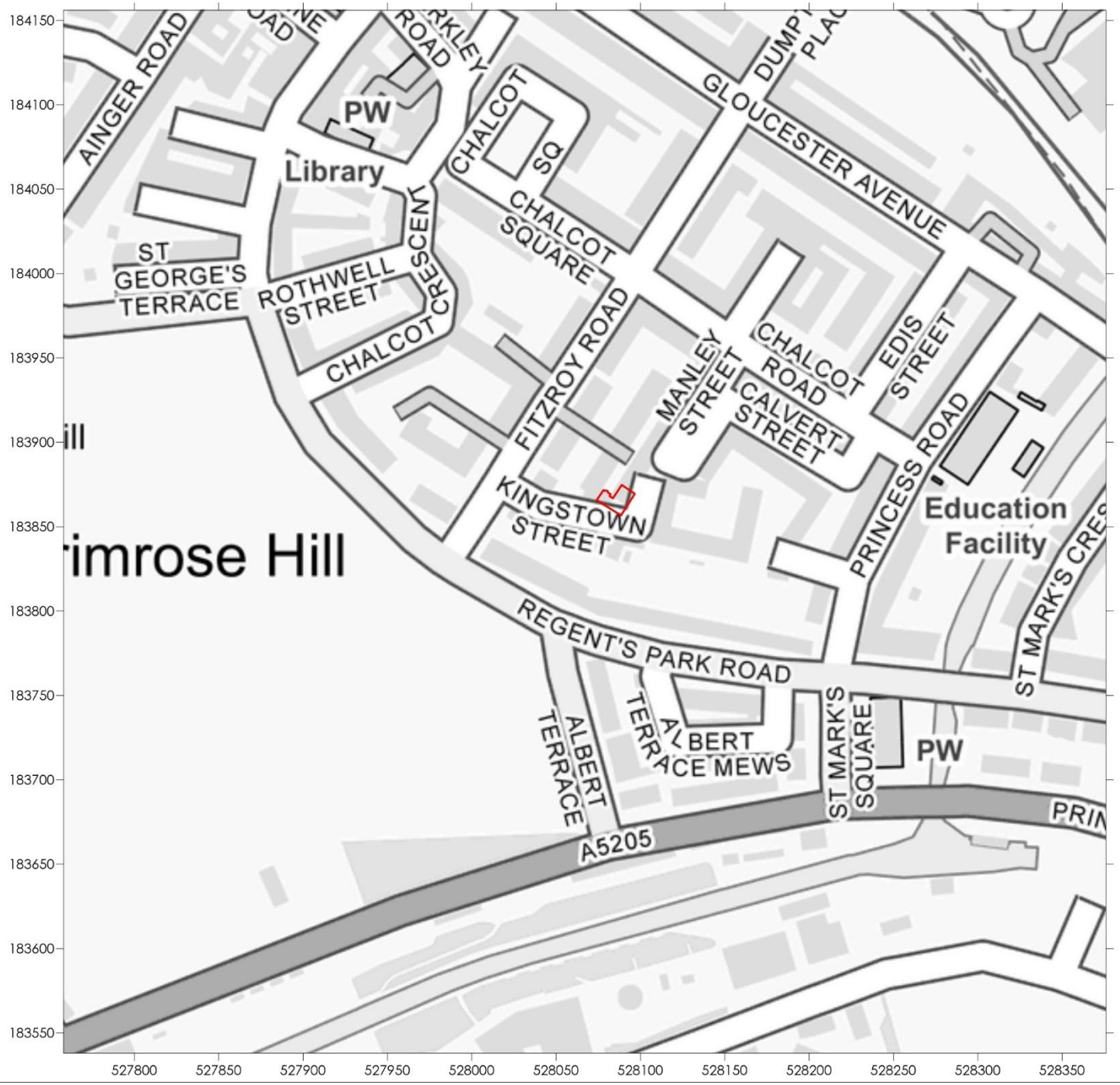
7.1.6 Potential emissions from the development were assessed in order to determine compliance with the air quality neutral requirements of the London Plan. The plant to be installed as part of the building energy strategy does not produce emissions to atmosphere. Additionally, the scheme includes the retention of one car parking space. As such, the development was considered to be air quality neutral.

7.1.7 Based on the assessment results, air quality issues are not considered a constraint to planning consent for the development.

8.0 ABBREVIATIONS

AADT	Annual Average Daily Traffic
AQAP	Air Quality Action Plan
AQLV	Air Quality Limit Value
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Strategy
ASHP	Air Source Heat Pumps
ASR	Annual Status Report
CPG	Camden Planning Guidance
DEFRA	Department for Environment, Food and Rural Affairs
GLA	Greater London Authority
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LA	Local Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LBoC	London Borough of Camden
NGR	National Grid Reference
NO_2	Nitrogen dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Policy Guidance
PM_{10}	Particulate matter with an aerodynamic diameter of less than 10µm
$PM_{2.5}$	Particulate matter with an aerodynamic diameter of less than 2.5µm
SPG	Supplementary Planning Guidance

Figures



Legend

Site Boundary

Title
Figure 1 - Site Location Plan

Project
Air Quality Assessment
Primrose Hill Studios, Camden

Project Reference
5466

Client
Barbara and Rory Cambell-Lange

Redmore environmental
www.red-env.co.uk | 0161 7060075

Legend

Site Boundary

Monitor

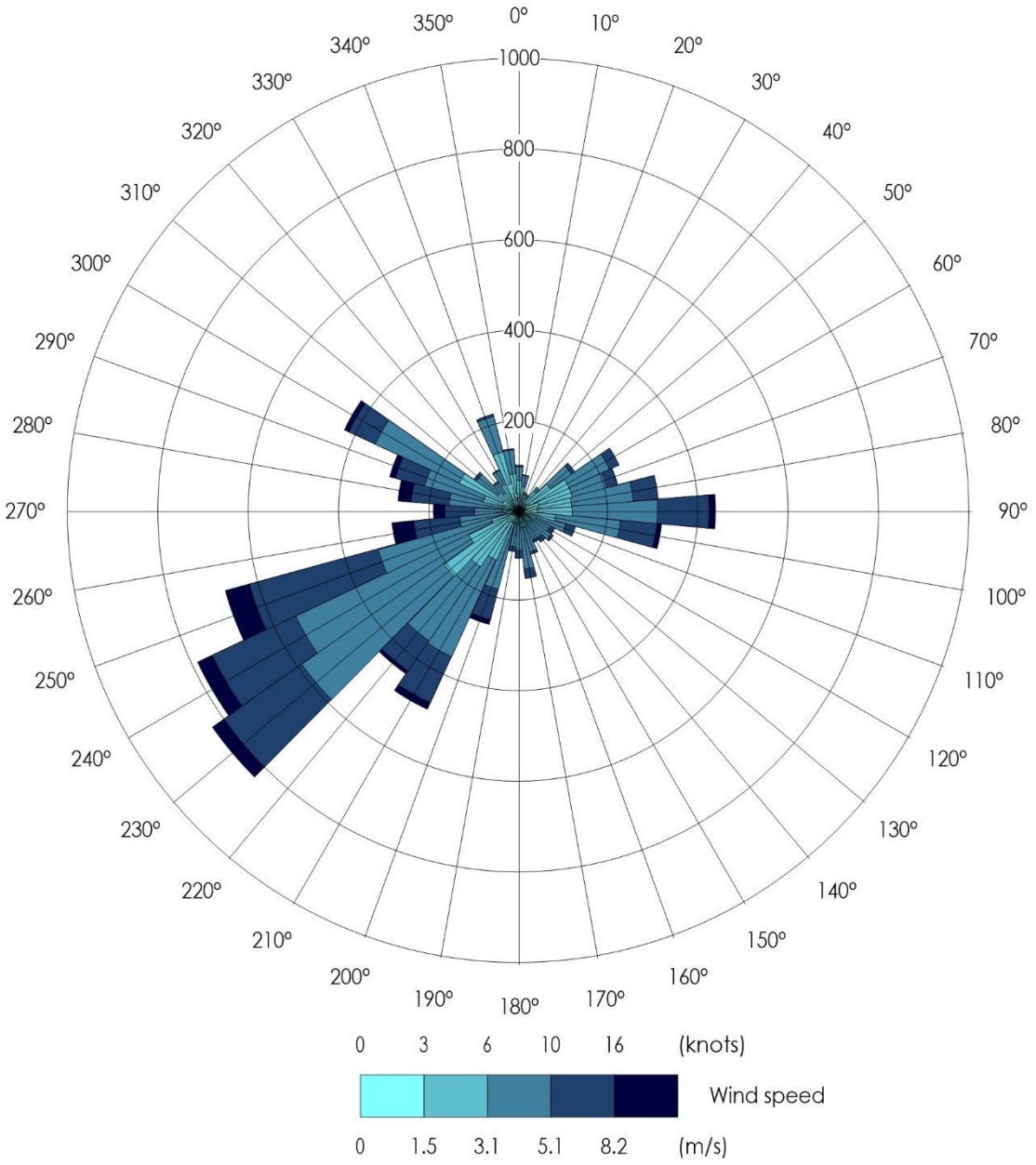
Title
Figure 2 - Monitoring Locations

Project
Air Quality Assessment
Primrose Hill Studios, Camden

Project Reference
5466

Client
Barbara and Rory Cambell-Lange

Redmore environmental
www.red-env.co.uk | 0161 7060075



Legend

Title
Figure 3 - Wind Rose of 2019
London City Airport Meteorological Data

Project
Air Quality Assessment
Primrose Hill Studios, Camden

Project Reference
5466

Client
Barbara and Rory Cambell-Lange

Redmore environmental
www.red-env.co.uk | 0161 7060075

Appendix 1 - Curricula Vitae

JETHRO REDMORE

Director

BEng (Hons), MSc, MIAQM, MIEnvSc, PIEMA, CEnv

KEY EXPERIENCE:

Jethro is a Chartered Environmentalist and Director of Redmore Environmental with specialist experience in the air quality and odour sectors. His key capabilities include:

- Production and management of Air Quality, Dust and Odour Assessments for a wide-range of clients from the retail, residential, infrastructure, commercial and industrial sectors.
- Production and co-ordination of Environmental Permit applications for a variety of industrial sectors.
- Detailed dispersion modelling of road vehicle and industrial emissions using ADMS-Roads, ADMS-5, AERMOD-PRIME and BREEZE-ROADS. Studies have included impact assessment of ground level pollutant and odour concentrations and assessment of suitability of development sites for proposed end-use.
- Project management and co-ordination of Environmental Impact Assessments and scoping reports for developments throughout the UK.
- Provision of expert witness services at Planning Inquiries.
- Design and project management of pollutant monitoring campaigns.
- Co-ordination and management of large-scale multi-disciplinary projects and submissions.
- Provision of expert advice to local government and international environmental bodies, as well as involvement in production of industry guidance.

SELECT PROJECTS SUMMARY:

Industrial

Shanks Waste Management - Odour Assessments of two waste management facilities to support Environmental Permit Applications.

Tatweer Petroleum - dispersion modelling of Bahrain oil field.

Doha South Sewage Treatment Works - AQA for works extension in Qatar.

IRIS Environmental Appraisal Report Reviews, Isle of Man Government - odour assessment reviews.

Lankem, Greater Manchester - Environmental Permit Application for chemical manufacturing plant.

Newport Docks Bulk Drying, Pelleting and CHP Facility - air quality EIA for gas CHP.

Springshades, Leicester - Environmental Permit Variation Application for textile manufacturing plant.

Valspar, Chester - Odour Assessment and production of Odour Management Plan for a paint manufacturing plant in response to neighbour complaints.

Agrivert - dispersion modelling of odour and CHP emissions from numerous AD plants.

James Cropper Paper Mill, Cumbria - air quality EIA, Environmental Permit Variation and Human Health Risk Assessment for new biomass boiler adjacent to SSSI.

Rigg Approach, Leyton - Air Quality Assessment in support of waste transfer site.

Lynchford Lane Waste Transfer Station - biomass facility energy recovery plant.

Barnes Wallis Heat and Power, Cobham - biomass facility adjacent to AQMA.

Residential

Wood St Mill, Bury - residential development adjacent to scrap metal yard.

Hyams Lane, Holbrook - Odour Assessment to support residential development adjacent to sewage works.

North Wharf Gardens, London - peer review of EIA undertaken for large residential development.

Loxford Road, Alford - Air Quality EIA for residential development, included consideration of impacts from associated package sewage works

Elephant and Castle Leisure Centre - baseline AQA for redevelopment.

Carr Lodge, Doncaster - EIA for large residential development.

Queensland Road, Highbury - residential scheme including CHP.

Bicester Ecotown - dispersion modelling of energy centre.

Castleford Growth Delivery Plan - baseline air quality constraints assessment for town redevelopment.

York St, Bury - residential development adjacent to AQMA.

Temple Point Leeds - residential development adjacent to M1.

Commercial and Retail

Etihad Stadium - Air Quality EIA for the extension to the capacity of the Etihad Stadium, Manchester.

Wakefield College - redevelopment of city centre campus in AQMA.

Manchester Airport Cargo Shed - commercial development.

Manchester Airport Apron Extension - EIA including aircraft emission modelling.

National Youth Theatre, Islington - redevelopment to provide new arts space and accommodation.

EMILY MACEY

Senior Air Quality Consultant

BSc (Hons), MSc, GradIEMA

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KEY EXPERIENCE:

Emily is a Senior Environmental Consultant with specialist experience in the air quality sector. Her key capabilities include:

- Production of Air Quality Assessments in accordance with Department for Environment, Food and Rural Affairs (DEFRA) methodologies for a range of residential, commercial and industrial sectors.
- Detailed dispersion modelling of road vehicle exhaust emissions using ADMS-Roads. Studies have included assessment of road traffic exhaust emissions on sensitive receptors and exposure of new residents to poor air quality.
- Advanced canyon modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Assessment of construction dust impacts from a range of development sizes.
- Definition of baseline air quality and identification of sensitive areas across the UK.
- Production of air quality mitigation strategies specifically tailored to address issues at individual sites.
- Air quality monitoring at industrial sites to quantify pollutant concentrations
- Odour surveys to assess amenity and suitability of sites for potential future development for residential use.

SELECT PROJECTS SUMMARY:

Bowlers Yard, Manchester

Air Quality Assessment in support of an eleven storey residential development to provide circa 65 units on land known as Bowlers Yard, Manchester. The site was located in an Air Quality Management Area (AQMA) and concerns were raised regarding the exposure of future occupants to poor air quality due to road traffic emissions. Detailed dispersion modelling was undertaken using ADMS-roads to assess $PM_{2.5}$, PM_{10} and NO_2 concentrations across the site. Results indicated that pollution levels were below the air quality objectives across the development.

Freemasons Arms Hotel, Heywood

Air Quality Assessment to support a residential-led development in an AQMA. Detailed dispersion modelling was undertaken with the inclusion of advanced canyon modelling to evaluate the impact of the urban topography within the locality on the dispersion of traffic related pollutants. Predicted concentrations of NO_2 were found to exceed air quality criteria at the building façade fronting Market Place at first floor level. As such, mitigation was specified for the affected units to ensure future residents would not be exposed to poor air quality.

Griffin Road, London

Air Quality Assessment in support of a residential development located in an AQMA. Detailed dispersion modelling was undertaken using ADMS-roads to assess PM_{10} and NO_2 concentrations across the site. Results indicated that pollution levels were classified as APEC - A in accordance with the London Councils Air Quality and Planning Guidance.

High Street, Dudley

Odour Impact Assessment in support of a proposed residential-led development. Due to the location of the site, being above an existing hot food takeaway, odour surveys were required to assess the level of odour across the development. A risk assessment was also undertaken in accordance with the relevant odour guidance. An appropriate ventilation system was identified on the basis of the assessment results.

East Common Lane, Selby

Air Quality Assessment in support of an industrial development on land associated with Access 63 Business Park, East Common Lane Selby. Due to the size of the development it was possible that traffic generated from the scheme may cause negative impacts on sensitive receptors nearby. NO_2 and PM_{10} concentrations were quantified at specific receptor points to ensure there would be no significant increases in pollution levels. Results revealed negligible impacts.

Wharton Road, Winsford

Air Quality Assessment in support of a residential development of circa 138 units on land off Wharton Road, Winsford. Using sensitive receptors, located in areas where increased road traffic may affect NO_2 concentrations, a comparison was made between overall concentrations with and without the development in place. Results indicated pollutant concentrations were below the relevant standards across the site and impacts were not significant.

LIAM SHELMERDINE

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KEY EXPERIENCE:

Liam is an Environmental Consultant with specialist experience in the air quality sector. His key capabilities include:

- Production of Air Quality Assessments in accordance with Department for Environment, Food and Rural Affairs (DEFRA) methodologies for a range of residential, commercial and industrial sectors.
- Detailed dispersion modelling of road vehicle exhaust emissions using ADMS-Roads. Studies have included assessment of road traffic exhaust emissions on sensitive receptors and exposure of new residents to poor air quality.
- Advanced Canyon Modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Assessment of construction dust impacts from a range of development sizes.
- Definition of baseline air quality and identification of sensitive areas across the UK.
- Assessment of industrial emissions using ADMS-5 software to determine impacts on sensitive human and ecological receptors in accordance with IAQM and Environment Agency (EA) guidance.

SELECT PROJECTS SUMMARY:

Heathrow Marriott Hotel, London

Air Quality Assessment for an extension of the existing Heathrow Marriott Hotel, London, to provide an additional 260 bedrooms. The development had the potential to cause impacts at sensitive locations. These may include fugitive dust emissions during construction and road traffic exhaust emissions from vehicles travelling to and from the site during operation. An assessment was therefore undertaken in order to determine baseline conditions and consider potential effects as a result of the proposals. Review of the results indicated an acceptable level of emissions from the scheme

Duchesse Belle Public House, Battersea

Production of an Air Quality Assessment in support of a mixed use development located within an Air Quality Management Area (AQMA). Dispersion modelling was undertaken in order to quantify pollutant concentrations at several heights of the proposed building. Predicted NO_2 and PM_{10} concentrations were found to be below relevant air quality criteria at all sensitive locations included within the development

Home Farm Logs, Southwell

Air Quality Assessment in support of planning application for two biomass boilers at Home Farm Log, Southwell. A desktop study indicated sensitive ecological designations and human receptors in the vicinity of the site. Detailed dispersion modelling was therefore undertaken in order to quantify changes in pollution levels as result of atmospheric emissions from the plant at the identified locations. The results indicated impacts to be not significant in accordance with EA guidance

Monier Road, London

Production of an Air Quality Assessment in support of the installation of two gas boilers and a Combined Heat and Power unit within a residential block. Dispersion modelling of combustion emissions using ADMS-5 was undertaken in order to predict impacts at sensitive receptors. The results indicated pollutant levels as a result of the operation of the plant to below the relevant AQOs at all locations within the vicinity of the installation. Mitigation was therefore not required

Liverpool Road, Eccles

Air Quality Assessment in support of 16 residential units and associated infrastructure. The site was situated in close proximity to the M60 motorway. As such, the proposals had the potential to introduce future occupants into an area of poor air quality. Dispersion modelling was therefore undertaken and outputs verified against local monitoring locations. This showed future occupants would not be exposed to exceedences of the relevant AQOs. Suitable mitigation to control potential impacts associated with fugitive dust releases during construction were also identified

Newton Road, Hereford

Air Quality Assessment in support of a residential development situated in an AQMA. The scheme was situated in close proximity to a junction and associated road traffic emissions. Concerns were therefore raised regarding the exposure of future occupants to poor air quality. Detailed dispersion modelling was subsequently undertaken using ADMS-roads to assess PM_{10} and NO_2 concentrations across the site. Results indicated that pollution levels were below the air quality standards across the site