Air Quality Assessment

Manchester Road, Huddersfield

Client: Manchester Road Projects Ltd

Reference: 7881r1

Date: 11th April 2024

Report Issue

Report Title: Air Quality Assessment - Manchester Road, Huddersfield

Report Reference: 7881

Field	Report Version			
	1	2	3	4
Prepared by	Olly Hanlon			
Position	Principal Air Quality Consultant			
Reviewed by	Megan Hall			
Position	Graduate Air Quality Consultant			
Authorised by	Emily Pears-Ryding			
Position	Associate Director			
Date of Issue	11th April 2024			
Comments	-			

Serendipity Labs, Building 7, Exchange Quay, Salford, M5 3EP

info@red-env.co.uk | 0161 706 0075 | www.red-env.co.uk

This report has been prepared by Redmore Environmental Ltd in accordance with the agreed terms and conditions of appointment. Redmore Environmental Ltd cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

Executive Summary

Redmore Environmental Ltd was commissioned by Manchester Road Projects Ltd to undertake an Air Quality Assessment in support of a student accommodation development on land off Manchester Road, Huddersfield.

An Air Quality Assessment was undertaken to:

- Assess potential impacts associated with fugitive dust emissions during the construction phase of the proposed development;
- Assess potential impacts associated with road transport emissions during the operational phase of the proposed development;
- Assess risk of future occupant exposure to any existing air quality issues; and,
- Identify any requirement for relevant mitigation measures.

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

Potential impacts during the operational phase of the proposals may occur due to road traffic exhaust emissions associated with vehicles travelling to and from the site. These were assessed using standard screening criteria. Due to the low number of car parking spaces, road traffic exhaust emission impacts were not predicted to be significant.

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

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

Table of Contents

1.0	**INTRODUCTION**	**1**
1.1	Instruction	1
1.2	Site Location and Context	1
1.3	Assessment Scope	1
2.0	**LEGISLATION AND POLICY**	**2**
2.1	Legislation	2
2.2	Local Air Quality Management	4
2.3	Dust	4
2.4	National Planning Policy	5
2.5	National Planning Practice Guidance	6
2.6	Local Planning Policy	7
2.7	West Yorkshire Technical Planning Guidance	8
3.0	**METHODOLOGY**	**9**
3.1	Introduction	9
3.2	Construction Phase Assessment	9
	Step 1 - Screen the Need for an Assessment	10
	Step 2 - Assess the Risk of Dust Impacts	10
	Step 3 - Site-specific Mitigation	15
	Step 4 - Determine Significant Effects	15
3.3	Operational Phase Assessment	16
	Potential Development Impacts	16
	Potential Future Exposure	17
4.0	**BASELINE**	**18**
4.1	Introduction	18
4.2	Local Air Quality Management	18
4.3	Air Quality Monitoring	18
4.4	Background Pollutant Concentrations	19
4.5	Sensitive Receptors	20
5.0	**CONSTRUCTION PHASE ASSESSMENT**	**22**
5.1	Introduction	22
5.2	Step 1 - Screen the Need for an Assessment	22
5.3	Step 2a - Define the Potential Dust Emission Magnitude	22
	Demolition	22
	Earthworks	22

	Construction	23
	Trackout	23
5.4	Step 2b - Define the Sensitivity of the Area	23
	Dust Soiling	23
	Human Health	23
5.5	Step 2c - Define the Risk of Dust Impacts	24
5.6	Step 3 - Site-specific Mitigation	24
5.7	Step 4 - Determine Significant Effects	26
6.0	**OPERATIONAL PHASE ASSESSMENT**	**27**
6.1	Road Vehicle Exhaust Emission Impacts	27
6.2	Potential Future Exposure	27
6.3	West Yorkshire Technical Planning Guidance	28
7.0	**CONCLUSION**	**30**
8.0	**ABBREVIATIONS**	**32**

Appendix

Appendix 1 - Curricula Vitae

1.0 INTRODUCTION

1.1 Instruction

1.1.1 Redmore Environmental Ltd was commissioned by Manchester Road Projects Ltd to undertake an Air Quality Assessment in support of a student accommodation development on land off Manchester Road, Huddersfield.

1.2 Site Location and Context

1.2.1 The site is located on land off Manchester Road, Huddersfield, HD1 3JA, at approximate National Grid Reference (NGR): 413687, 416215. The relevant Local Authority (LA) is Kirklees Council (KC). Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The proposals comprise demolition of the existing building and subsequent construction of a six-storey student accommodation block to provide 46 beds alongside three 'drop-off' car parking bays.

1.3 Assessment Scope

1.3.1 The proposals have the potential to cause air quality impacts at sensitive locations. An Air Quality Assessment has therefore been undertaken to:

- Assess potential impacts associated with fugitive dust emissions during the construction phase of the proposed development;
- Assess potential impacts associated with road transport emissions during the operational phase of the proposed development;
- Assess risk of future occupant exposure to any existing air quality issues; and,
- Identify any requirement for relevant mitigation measures.

1.3.2 This is detailed in the following report.

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:

- Nitrogen dioxide (NO_2);
- Sulphur dioxide;
- Lead;
- Particulate matter with an aerodynamic diameter of less than 10µm (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 on 28th April 2023[1]. The document contains standards, objectives and measures for improving ambient air quality, including a number of Air Quality Objectives (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 The Environmental Improvement Plan 2023[2] was published in January 2023, providing long term and Interim Targets in order to reduce population exposure to $PM_{2.5}$. The concentration target for 2040 was subsequently adopted in the Environmental Targets (Fine Particulate Matter) (England) Regulations (2023).

[1] AQS: Framework for Local Authority Delivery, DEFRA, 2023.

[2] Environmental Improvement Plan 2023, DEFRA, 2023.

2.1.5 Table 1 presents the AQOs and Interim Target for pollutants considered within this assessment.

Table 1 Air Quality Objectives/ Interim Target

Pollutant	Air Quality Objective/ Interim Target	
	Concentration (µg/m³)	Averaging Period
NO_2	40	Annual mean
	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
$PM_{2.5}$	12[(a)]	Annual mean

Note: (a) Interim Target to be achieved by end of January 2028.

2.1.6 Table 2 summarises the advice provided in DEFRA guidance[3] 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, hospitals, care homes 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 Gardens of residential properties 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 Gardens of residential properties	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term

3 Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

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 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 Air Quality Management Area (AQMA). For each AQMA the LA is required to produce an Air Quality Action Plan, 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[4] (NPPF) was published in December 2023 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, or 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 […]"

[4] NPPF, Ministry of Housing, Communities and Local Government, 2023.

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[5] (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 be relevant to the planning 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?

[5] 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

2.6.1 The Kirklees Local Plan[6] (KLP) was adopted by KC on 27th February 2019. A review of the document indicated the following policies in relation to air quality which are relevant to this assessment:

> "Policy LP47 - Healthy, active and safe lifestyles
>
> The council will, with its partners, create an environment which supports healthy, active and safe communities and reduces inequality.
>
> Healthy, active and safe lifestyles will be enabled by:
>
> […]
>
> g. ensuring that the current air quality in the district is monitored and maintained and, where required, appropriate mitigation measures included as part of new development proposals; […]"
>
> "Policy LP51 - Protection and improvement of local air quality
>
> 1. Development will be expected to demonstrate that it is not likely to result, directly or indirectly, in an increase in air pollution which would unacceptably affect or cause a nuisance to the national or build environment or to people.
>
> 2. Proposals that have the potential to increase local air pollution either individually or cumulatively must be accompanied by evidence to show that the impact of the development has been assessed in accordance with the relevant guidance. Development which has the potential to cause levels of local air pollution to increase to unsafe levels must incorporate sustainable mitigation

[6] KLP, KC, 2019.

measures that reduce this impact to a safe level. If sustainable measures cannot be introduced the development will not be permitted.

3. Where the development introduces new receptors into Air Quality Management Areas or Areas of Concern or near other areas of relatively poor air quality, for example near roads or junctions, the development must incorporate sustainable mitigation measures that protect the new receptors from unacceptable levels of air pollution. Where sustainable mitigation measures cannot be introduced which prevent receptors from being exposed to unsafe levels of air pollution, development will not be permitted."

2.6.2 The above policies were taken into consideration throughout the undertaking of the assessment.

2.7 West Yorkshire Technical Planning Guidance

2.7.1 The West Yorkshire LAs have produced the Air Quality and Emissions: Technical Planning Guidance[7] as part of an overarching low emission strategy to reduce road transport emissions in the county. It is aimed at helping LAs deliver AQO compliance through cost effective service planning brought about by the joint working group and relevant Local Plan policies and was taken into consideration throughout the undertaking of this assessment.

[7] Air Quality and Emissions: Technical Planning Guidance, West Yorkshire Low Emissions Group, 2014.

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 occupants to any existing air quality issues. These have been assessed in accordance with 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 Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction V2.2'[8].

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

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

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.

[8] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

Step 1 - Screen the Need for an Assessment

3.2.5 Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 250m from the boundary or 50m from the construction vehicle route up to 250m 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 250m 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 - Assess the Risk of Dust Impacts

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	Demolition	• Total building volume greater than 75,000m^3 • Potentially dusty construction material (e.g. concrete) • On-site crushing and screening • Demolition activities more than 12m above ground level

Magnitude	Activity	Criteria
	Earthworks	• Total site area greater than 110,000m^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 6m in height
	Construction	• Total building volume greater than 75,000m^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	Demolition	• Total building volume between 12,000m^3 and 75,000m^3 • Potentially dusty construction material (e.g. concrete) • Demolition activities 6 - 12m above ground level
	Earthworks	• Total site area 18,000m^2 to 110,000m^2 • Moderately dusty soil type (e.g. silt) • 5 to 10 heavy earth moving vehicles active at any one time • Formation of bunds 3m to 6m in height
	Construction	• Total building volume 12,000m^3 to 75,000m^3 • Potentially dusty construction material (e.g. concrete) • On site concrete batching
	Trackout	• 20 to 50 HDV trips per day • Moderately dusty surface material (e.g. high clay content) • Unpaved road length 50m to 100m
Small	Demolition	• Total building volume less than 12,000m^3 • Construction material with a low potential for dust release (e.g. metal, cladding or timber) • Demolition activities less than 6m above ground level
	Earthworks	• Total site area less than 18,000m^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 3m in height

Magnitude	Activity	Criteria
	Construction	• Total building volume less than 12,000m^3 • Construction material with low potential for dust release (e.g. metal cladding or timber)
	Trackout	• Less than 20 HDV trips per day • Surface material with low potential for dust release • Unpaved road length less than 50m

3.2.10 Step 2B defined the sensitivity of the area around the development to potential dust impacts. The sensitivities of specific receptors are summarised in Table 4.

Table 4 Construction Dust - Sensitivities of People and Ecological Receptors

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 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 250
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

3.2.12 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 250
High	Greater than 32µg/m³	More than 100	High	High	High	Medium
		10 - 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low
	28 - 32µg/m³	More than 100	High	High	Medium	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24 - 28µg/m³	More than 100	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	Less than 24µg/m³	More than 100	Medium	Low	Low	Low
		10 - 100	Low	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 250
		1 - 10	Low	Low	Low	Low
Medium	Greater than 32µg/m³	More than 10	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	28 - 32µg/m³	More than 10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28µg/m³	More than 10	Low	Low	Low	Low
		1 -10	Low	Low	Low	Low
	Less than 24µg/m³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Low	-	1 or more	Low	Low	Low	Low

3.2.13 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

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

3.2.15 Table 8 outlines the risk category from demolition activities.

Table 8 Construction Dust - Dust Risk Category from Demolition Activities

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

3.2.16 Table 9 outlines the risk category from earthworks, construction and trackout activities.

Table 9 Construction Dust - Dust Risk Category from Earthworks, Construction and Trackout Activities

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

Step 3 - Site-specific Mitigation

3.2.17 Step 3 requires the identification of site-specific mitigation measures within the IAQM guidance[9] 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 - Determine Significant Effects

3.2.18 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

[9] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

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

3.2.19 The determination of significance relies on professional judgement and reasoning should be provided as far as practicable. The IAQM guidance suggests the provision of details of the assessor's qualifications and experience. These are provided in Appendix 1.

3.3 Operational Phase Assessment

Potential Development Impacts

3.3.1 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. An assessment was therefore undertaken using the criteria contained within the IAQM 'Land-Use Planning & Development Control: Planning for Air Quality'[10] guidance to determine the potential for trips generated by the development to affect local air quality.

3.3.2 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 1,000 m^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.

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

3.3.3 Should these criteria not be met, then the IAQM guidance[11] considers air quality impacts associated with a scheme to be **not significant** and no further assessment is required.

3.3.4 Where the above criteria are met, then the assessor should proceed to assess the development proposals against the following Stage 2 screening criteria:

- The development leads to a change of Light Duty Vehicle (LDV) flows of:
  - More than 100 Annual Average Daily Traffic (AADT) within an AQMA;
  - More than 500 AADT outside of an AQMA;
- The development leads to a change of HDV flows of:
  - More than 25 AADT within an AQMA;
  - More than 100 AADT outside of an AQMA;
- Introduce a new junction that would cause traffic flow to change behaviour with respect to acceleration/deceleration or introduce queueing traffic where there previously wasn't any (such as a roundabout or traffic lights); and,
- Introduce one or more significant combustion processes where there is a risk of impact to relevant receptors.

3.3.5 Should these criteria not be met, then the IAQM guidance[12] considers air quality impacts associated with a scheme to be **not significant** and no further assessment is required.

Potential Future Exposure

3.3.6 The proposed development comprises residential land use. This is considered a location of relevant exposure for long and short term AQOs in accordance with DEFRA guidance[13], as shown in Table 2. Existing air quality conditions at the site were therefore assessed using the 'NO_2 Fall-Off with Distance Calculator (version 4.2)' produced by DEFRA. This spreadsheet utilises data from nearby monitoring locations, including the distance from the kerb and annual mean NO_2 concentrations, in order to predict air quality conditions at a specified receptor. The findings were subsequently used to determine the potential for AQO exceedance at the development location.

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

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

[13] Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

4.0 BASELINE

4.1 Introduction

4.1.1 Existing air quality conditions in the vicinity of the proposed development site 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), as amended by the Environment Act (2021), KC 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, ten AQMAs have been declared. The closest to the site is described as follows:

> "AQMA No. 10 - The AQMA area shown on the attached map outlined in Black is a designated area incorporating Manchester Road (A62), Birkhouse Lane and Thornton Lodge Road, which is in close proximity to Huddersfield Town Centre."

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

4.2.3 KC 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 levels is undertaken by KC throughout their area of jurisdiction. Recent NO_2 concentrations recorded in the vicinity of the development, as provided in KC's '2023 Air Quality Annual Status Report (ASR)'[14], are shown in Table 10.

[14] 2023 Air Quality ASR, KC, 2023.

Table 10 Monitoring Results

Monitoring Site		Monitored NO_2 Concentration (µg/m³)			
		2019	2020	2021	2022
K49	Manchester Road, Thornton Lodge 2	33.1	33.1	36.4	33.6

4.3.2 As shown in Table 10, annual mean NO_2 concentrations were below the AQO of 40µg/m³ at the K49 monitor in recent years. Reference should be made to Figure 2 for a map of the survey position.

4.3.3 Pollutant concentrations during 2020 and 2021 were affected by changes to travel patterns and associated exhaust emissions as a result of the COVID-19 pandemic. The results should therefore be viewed with caution.

4.3.4 Monitoring results for 2022 are now considered representative of post-pandemic conditions. This is supported by the IAQM[15], who have adopted the following position:

> "ambient air quality monitoring data for the year 2022 and beyond is generally considered to represent the current post-pandemic baseline."

4.3.5 KC does not undertake monitoring of PM_{10} or $PM_{2.5}$ concentrations in the vicinity of the site.

4.4 Background Pollutant Concentrations

4.4.1 Predictions of background pollutant concentrations on a 1km by 1km grid basis have been produced by DEFRA for the entire of the UK to assist LAs in their Review and Assessment of air quality. The proposed development site is located in grid square NGR: 413500, 416500. Data for this location was downloaded from the DEFRA website[16] for the purpose of the assessment and is summarised in Table 11.

[15] Use of 2020 and 2021 Monitoring Datasets - IAQM Position Statement V1.1, IAQM, 2023.

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

Table 11 Background Pollutant Concentration Predictions

Pollutant	Predicted 2024 Background Pollutant Concentration (µg/m³)
NO_2	12.25
PM_{10}	10.83
$PM_{2.5}$	7.48

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 Interim Target 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 demolition, earthworks and construction were identified from a desk-top study of the area up to 250m from the development boundary. These are summarised in Table 12.

Table 12 Demolition, 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	10 - 100	0
Up to 100	More than 100	-
Up to 250	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 250m of the site access. These are summarised in Table 13.

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 250m of the site entrance. As such, ecological impacts have not been assessed further within this report.

4.5.4 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.

5.0 CONSTRUCTION PHASE ASSESSMENT

5.1 Introduction

5.1.1 There is the potential for air quality impacts as a result of the construction of the proposed development. These are assessed in the following Sections.

5.2 Step 1 - Screen the Need for an Assessment

5.2.1 The undertaking of activities such as demolition, excavation, ground works, cutting, construction 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 250m of the site boundary. As such, a detailed assessment of potential dust impacts was required.

5.3 Step 2a - Define the Potential Dust Emission Magnitude

Demolition

5.3.1 Demolition will involve clearance of the existing structures on site. It is estimated that the total building volume to be demolished is less than 12,000m^3. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from demolition is therefore **small.**

Earthworks

5.3.2 Earthworks will primarily involve excavating material, haulage, tipping and stockpiling, as well as site levelling and landscaping. The area of the proposed development site is less

than 18,000m^2. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from earthworks is therefore **small**.

Construction

5.3.3 Due to the size of the development, the total building volume will be between 12,000m^3 and 75,000m^3. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from construction is therefore **medium**.

Trackout

5.3.4 Based on the site area, 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**.

5.4 Step 2b - Define the Sensitivity of the Area

Dust Soiling

5.4.1 Table 12 shows that there are between 10 and 100 **high** sensitivity receptors within 20m of the site boundary. The sensitivity of the area with respect to dust soiling from demolition, earthworks and construction, as defined using the criteria summarised in Table 5, is therefore considered to be **high**.

5.4.2 Table 13 shows that there are more than 100 **high** sensitivity receptors within 20m of the road network within 250m of the site access. The sensitivity of the area with respect to dust soiling from trackout, as defined using the criteria summarised in Table 5, is therefore considered to be **high**.

Human Health

5.4.3 Table 11 shows the annual mean PM_{10} background concentration at the site is 10.83µg/m^3. As shown in Table 6, where the background annual mean PM_{10} concentration is below 24µg/m^3 and there are between 10 and 100 **high** sensitivity receptors within 20m of the site boundary, the sensitivity of the area with respect to human health from demolition, earthworks and construction is considered to be **low**.

5.4.4 There are more than 100 **high** sensitivity receptors within 20m of the road network within 250m of the site access. The sensitivity of the area with respect to human health from trackout, as defined using the criteria in Table 6, is therefore considered to be **medium**.

5.5 Step 2c - Define the Risk of Dust Impacts

5.5.1 The derived dust emission magnitude for each activity has been combined with the sensitivity of the area to determine the risk of unmitigated impacts in line with the methodology set out in Table 8 and Table 9. A summary of the risk from each dust generating activity is provided in Table 14.

Table 14 Summary of Potential Unmitigated Dust Risks

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

5.5.2 As indicated in Table 14, the potential risk of dust soiling is **medium** from demolition and construction and **low** from earthworks and trackout. The potential risk of human health impacts is **low** from construction and trackout and **negligible** from demolition and earthworks.

5.5.3 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.

5.6 Step 3 - Site-specific Mitigation

5.6.1 The IAQM guidance[17] 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 15. These may be reviewed prior to the

[17] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

commencement of construction works and incorporated into a Construction Environmental Management Plan or similar if required by the LA.

Table 15 Fugitive Dust Emission Mitigation Measures

Issue	Control Measure
Communications	• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager • Display the head or regional office contact information • Display and implement a Dust Management Plan, which may include any measures to control other emission, approved by the LA
Site management	• Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken • Make the complaints log available to the LA upon request • Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book
Monitoring	• 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 are being carried out and during prolonged dry or windy conditions
Site preparation	• Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site • Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period • Avoid site runoff of water or mud • Keep site fencing, barriers and scaffolding clean using wet methods • Remove materials that have a potential to produce dust from site as soon as possible
Operating vehicle/machinery and sustainable travel	• Ensure all vehicles switch off engines when stationary - no idling vehicles • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable

Issue	Control Measure
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 suppression, using non-potable water where possible and appropriate • Use enclosed chutes and conveyors and covered skips • Minimise drop heights and use fine water sprays wherever appropriate
Waste management	• Avoid bonfires and burning of waste materials
Demolition	• Ensure effective water suppression is used during demolition operations • Avoid explosive blasting, using appropriate manual or mechanical alternatives • Bag and remove any biological debris or damp down such material before demolition
Construction	• Avoid scabbling (roughening of concrete surfaces), if possible • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out
Trackout	• Use water-assisted dust sweeper on access and local roads, if required • Avoid dry sweeping of large areas • Ensure vehicles entering and leaving site are covered to prevent escape of materials • Implement a wheel washing system, if required

5.7 Step 4 - Determine Significant Effects

5.7.1 Assuming the relevant mitigation measures outlined in Table 15 are implemented, the residual impact from all dust generating activities is predicted to be **not significant**, in accordance with the IAQM guidance[18].

[18] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

6.0 OPERATIONAL PHASE ASSESSMENT

6.1 Road Vehicle Exhaust Emission Impacts

6.1.1 Any vehicle movements associated with the development will generate exhaust emissions on the local and regional road networks. The proposals have therefore been assessed against the IAQM[19] Stage 1 screening criteria detailed in Section 3.1. The development comprises three 'drop-off' car parking spaces. As such, air quality impacts associated with the scheme are predicted to be **not significant**.

6.2 Potential Future Exposure

6.2.1 The proposed development includes land use sensitive to short and long-term pollutant concentrations. As such, there is the potential for new receptors to be introduced into an area of poor air quality. Existing conditions at the site have therefore been considered using the 'NO_2 Fall-Off with Distance Calculator (version 4.2)'.

6.2.2 As shown in Table 10, KC undertook monitoring of annual mean NO_2 concentrations at one location in the vicinity of the development in 2022. The 2022 result was therefore utilised in the assessment. The relevant inputs are outlined in Table 16. It should be noted that the distance from the monitor to the kerb was obtained from KC's 2023 ASR[20].

Table 16 NO_2 Fall-Off with Distance Calculator Inputs

Monitor	Distance to kerb (m)		Annual Mean NO_2 Concentration (µg/m³)		
	Monitor	Receptor	Background	Monitor	Predicted at Receptor[(a)]
K49	3.70	5.10	12.25	33.60	31.70

Note: (a) Receptor was considered to be at the façade of the building closest to Manchester Road to provide a worst-case assessment.

6.2.3 As shown in Table 16, the annual mean NO_2 concentration predicted at the proposed development is 31.70µg/m³. As such, future occupants are not predicted to be exposed

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

[20] 2023 Air Quality ASR, KC, 2023.

to pollution levels above the AQO. The site is therefore considered suitable for the proposed use from an air quality perspective.

6.3 West Yorkshire Technical Planning Guidance

6.3.1 The West Yorkshire LAs have produced Air Quality and Emissions: Technical Planning Guidance[21] as part of an overarching Low Emission Strategy to reduce road transport emissions in the county. It is aimed at helping LAs deliver AQO compliance through cost effective service planning brought about by the joint working and relevant Local Plan policies.

6.3.2 The guidance provides a methodology for determining the scale of a development as **minor**, **medium** or **major** and the required air quality mitigation for the relevant banding. Review of the relevant criteria indicated the proposals were classified as **minor** due to the following:

- Residential institution (C2) less than 50 beds.

6.3.3 Based on the development classification, the guidance[22] states that the proposals are required to implement Type 1 mitigation in order to reduce air quality effects. This includes the following:

- Possible short-term screening monitoring or utilising the distance calculation provided by DEFRA (DEFRA Distance) at the proposed location to identify the level of exposure;
- Redesigning the proposal to reduce the ingress of pollution;
- Including a stand-off distance and/or vegetation boundary from the development; and,
- One Electric Vehicle (EV) charging point per 10 spaces (unallocated parking).

6.3.4 As outlined in Section 6.2, the DEFRA 'NO_2 Fall-Off with Distance Calculator' has been utilised to identify the level of exposure at the development. This indicated that future occupants are not predicted to be exposed to pollutant concentrations above the AQO.

[21] Air Quality and Emissions: Technical Planning Guidance, West Yorkshire Low Emissions Group, 2014.

[22] Air Quality and Emissions: Technical Planning Guidance, West Yorkshire Low Emissions Group, 2014.

As such, mitigation measures to further reduce the level of exposure are not considered necessary.

6.3.5 As outlined in Section 6.1, the proposals only include three 'drop-off' car parking spaces. As such, road vehicle exhaust emission impacts are predicted to be **not significant** and further mitigation is not required. EV charging spaces are therefore not considered necessary.

7.0 CONCLUSION

7.1.1 Redmore Environmental Ltd was commissioned by Manchester Road Projects Ltd to undertake an Air Quality Assessment in support of a student accommodation development on land off Manchester Road, Huddersfield.

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 occupants to any existing air quality issues at the site. As such, an Air Quality Assessment was undertaken in to determine baseline conditions, consider site suitability for the proposed end-use and assess potential effects as a result of the scheme.

7.1.3 During the construction phase of the development there is the potential for air quality impacts from fugitive dust emissions from the site. These were assessed in accordance with the IAQM methodology and site specific dust control measures identified based on the results. Potential residual impacts from dust generated by demolition, earthworks, construction and trackout activities following implementation of the relevant mitigation was predicted to be **not significant**.

7.1.4 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 guidance[23]. This indicated road traffic exhaust impacts were predicted to be **not significant**.

7.1.5 The potential for exposure of future occupants to exceedences of the AQO was assessed using the DEFRA 'NO_2 Fall-Off with Distance Calculator (version 4.2)'. This indicated that concentrations of NO_2 are predicted to be below the relevant AQO at the development location. As such, the site is considered suitable for the proposed end use from an air quality perspective.

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

7.1.6 The requirements of the West Yorkshire Air Quality and Emissions Technical Planning Guidance[24] were taken into consideration during the undertaking of this assessment. The scale of the development was determined and the required level of mitigation identified. Based on the findings of the assessment, mitigation measures were not considered necessary.

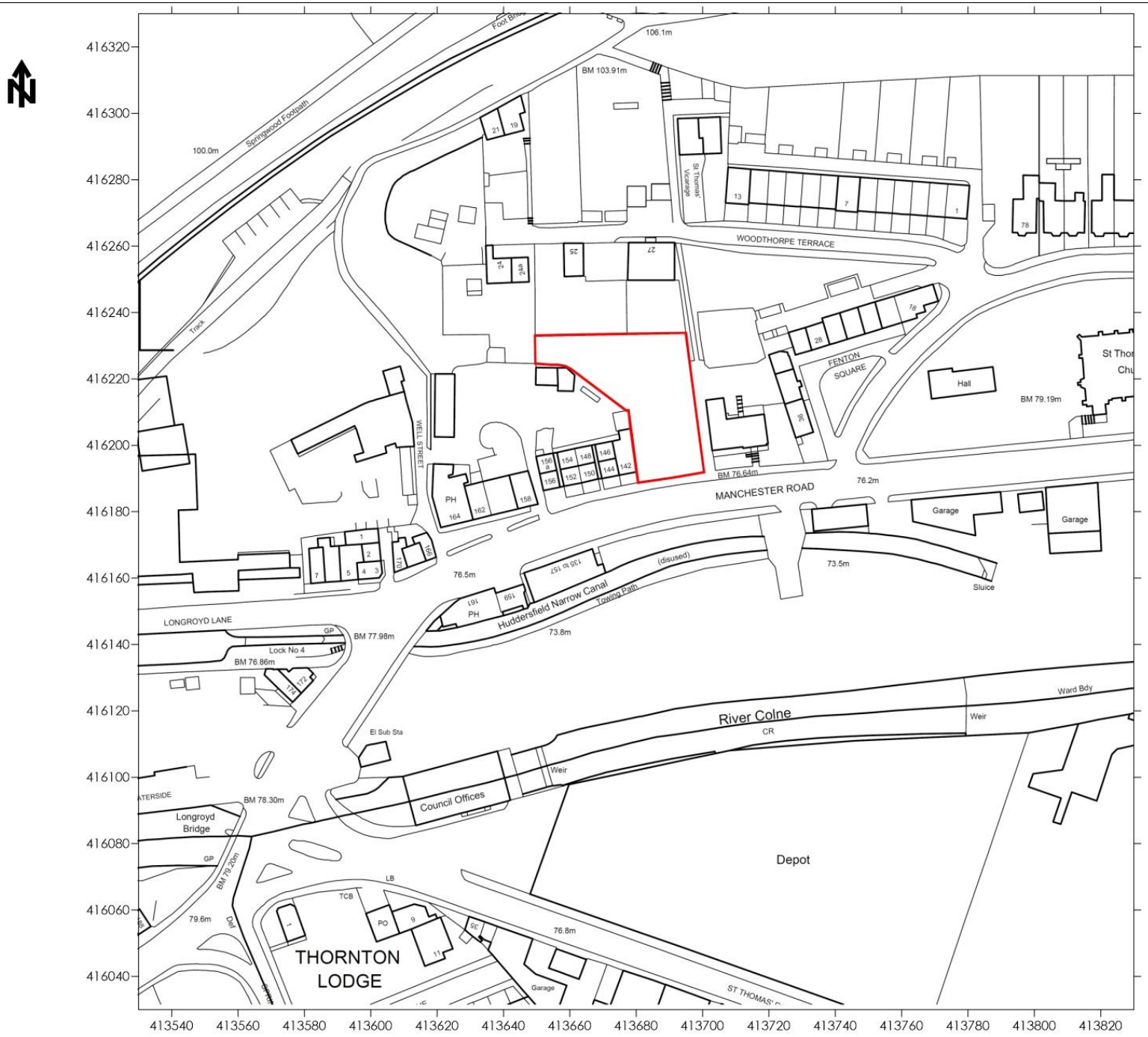
7.1.7 Based on the assessment results, air quality factors are not considered a constraint to planning consent for the development.

[24] Air Quality and Emissions: Technical Planning Guidance, West Yorkshire Low Emissions Group, 2014.

8.0 ABBREVIATIONS

AADT	Annual Average Daily Traffic
AQLV	Air Quality Limit Value
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Strategy
ASR	Annual Status Report
DEFRA	Department for Environment, Food and Rural Affairs
EV	Electric Vehicle
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
KC	Kirklees Council
KLP	Kirklees Local Plan
LA	Local Authority
LAQM	Local Air Quality Management
LDV	Light Duty Vehicle
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

Figures



Legend

Site Boundary

Title
Figure 1 - Site Location

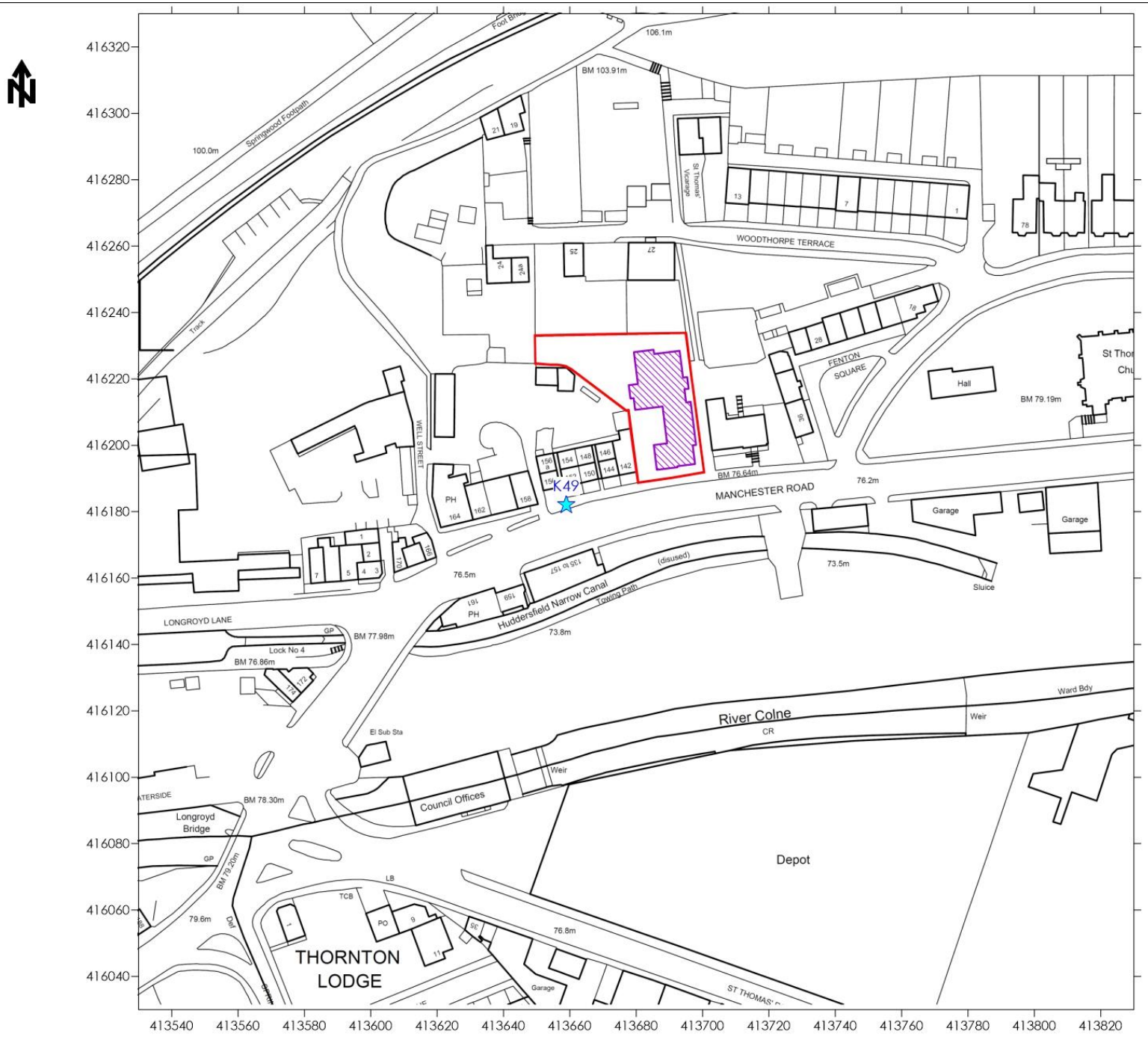
Project
Air Quality Assessment
Manchester Road, Huddersfield

Project Reference
7881

Client
Manchester Road Projects Ltd

Redmore environmental

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



Legend

Site Boundary

Proposed Building

Monitor

Title
Figure 2 - Monitoring Location

Project
Air Quality Assessment
Manchester Road, Huddersfield

Project Reference
7881

Client
Manchester Road Projects Ltd

Redmore environmental

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

Appendix 1 - Curricula Vitae

EMILY PEARS-RYDING

Associate Director

BSc (Hons), MIAQM, MIEnvSc

Tel: 0161 706 0075 | Email: emily.pears-ryding@red-env.co.uk

KEY EXPERIENCE:

Emily is an Associate Director 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 and industrial emissions using ADMS-Roads and ADMS-5. 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.
- Assessment of fugitive dust impacts from a range of mineral extraction developments.
- Assessment of petrol stations to address benzene concentrations and their impact on adjacent developments.
- Production of air quality mitigation strategies specifically tailored to address issues at individual sites.
- Assessment of potential effects associated with network realignment schemes and highway developments.

SELECT PROJECTS SUMMARY:

Broad Street, Birmingham

Air Quality Assessment in support of a residential-led development on land at Broad Street, Birmingham. The proposals were located adjacent to a section of the Midland Metro Westside which runs along Broad Street. Consideration was made to the potential for re-alignment of the local road network as a result of the Metro to effect pollution levels at the development. The assessment indicated NO_2 concentrations exceeded air quality criteria from ground to third floor level as a result of road vehicle exhaust emissions. Mitigation was therefore specified for the affected units.

Home Farm, Forest Road, Warfield

Ecological Air Quality Assessment in support of a residential development. Natural England held concerns regarding potential impacts at sensitive ecological designations as a result of traffic exhaust emissions associated with the development. The predicted change in NO_x and ammonia concentrations and nitrogen and acid deposition was below the relevant criteria at all locations within the ecological designations. Impacts were therefore not considered to be significant.

Saltcoats Road, Stevenston

Air Quality Assessment in support of an educational campus and associated energy centre. Impacts associated with emissions from the proposed gas and biomass boilers were assessed through detailed dispersion modelling. This indicated impacts on annual mean NO_2 and PM_{10} concentrations were predicted to be not significant.

Blackthorn & Piddington

Environmental Impact Assessment in support of a railway embankment scheme on land at the Network Railway Embankment between Piddington and Blackthorn. Due to the extensive stabilisation works a Fugitive Dust Emissions Assessment was undertaken in addition to consideration of road vehicle exhaust emissions. Due to the location of the site in relation to nearby sensitive receptors, potential impacts associated with construction works were not considered to be significant.

Blackmoorfoot Road, Huddersfield

Air Quality in support of a residential-led development in close proximity to an operational minerals facility. Due to the presence of the Johnsons Wellfield Quarry to the south of the site a Fugitive Dust Emissions Assessment was undertaken to determine potential impacts. Dispersion modelling of road vehicle exhaust emissions was also undertaken in support of the scheme. Results indicated the overall significance of fugitive dust emissions from the quarry and air quality impacts associated with operation of the development itself were not significant.

Lockwood Bar, Huddersfield

Air Quality Assessment for the proposed highway realignment scheme along Lockwood Road, Huddersfield. Changes in pollution levels were considered at sensitive receptors as a result of variations to road geometry and associated redistribution of vehicle trips across the local area. Results of the dispersion modelling study indicated air quality impacts as a result of the scheme were not significant.

OLLY HANLON

Principal Air Quality Consultant

BSc (Hons), AMIEnvSc

Tel: 0161 706 0075 | Email: olly.hanlon@red-env.co.uk

KEY EXPERIENCE:

Olly is a Principal 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 and industrial emissions using ADMS-Roads and ADMS-6. 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 (EIAs) and scoping reports for developments throughout the UK.
- Advanced canyon modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Assessment of fugitive dust impacts from a range of development sizes and mineral extraction sites.
- Production of air quality mitigation strategies specifically tailored to address issues at individual sites.
- Odour surveys to assess amenity and suitability of sites for potential future development for residential use.
- Organisation and delivery of bespoke monitoring programmes for a range of projects.

SELECT PROJECTS SUMMARY:

Medlock Street, Manchester

Air Quality Environmental Impact Assessment in support of the development of 1,014 purpose-built student accommodation units. Detailed dispersion modelling was undertaken in order to assess the potential for exposure of future occupants to any existing issues at the site, as well as air quality impacts associated with vehicles travelling to and from the scheme during operation. Modelling included complex road geometries, as well as advanced canyon inputs. The results indicated air quality conditions did not present an issue to planning consent.

Anstey Lane, Leicester

Odour Assessment in support of a residential-led development on land off Anstey Lane, Leicester. The proposals were located in close proximity to a number of eating and drinking establishments. As such, the Local Authority raised concerns that odour emissions may cause loss of amenity to future residents. A programme of Field Odour Surveys was undertaken to assess odour impacts from said premises. Results indicated odour effects at the site did not represent a constraint to planning consent.

Whitings Road, Barnet

Air Quality Neutral Assessment in support of a residential development comprising 35 units to determine compliance with the London Plan. Detailed consultation was undertaken with the Local Authority to ensure they were satisfied with the proposed measures aimed at reducing road vehicle exhaust emissions associated with the scheme. Following discussions and implementation of the identified strategies, compliance with the London Plan was achieved.

Honeycombe Beach, Bournemouth

Air Quality Assessment to determine air quality conditions within a covered car park serving a residential complex and evaluate the effectiveness of the existing ventilation system. Monitoring of pollutant concentrations over a three-month period at four locations at the site was undertaken. Internal concentrations of pollutants were below the relevant Work Exposure Limits (WELs) at all locations. As such, natural ventilation was considered to provide adequate control of internal air quality.

Brill Place, Camden

Organisation and delivery of a bespoke ambient monitoring programme to address a planning condition. The project included identification of appropriate monitoring equipment, agreement of the technical specifications and sampling positions with the Local Authority, as well as delivery of a text alert system to notify residents of exceedences of the relevant trigger levels and appropriate action to be taken to reduce exposure.

Matching Airport, Abbess Roding

Air Quality Assessment in support of a flexible generation facility. Dispersion modelling was undertaken to determine potential changes in pollution levels as a result of emissions from the installation and consider potential impacts at nearby sensitive receptor locations. Predicted concentrations of NO_2 were below the relevant air quality criteria at all locations of relevant exposure across all meteorological data sets modelled. The overall effects of the development were predicted to be not significant.

Megan Hall

Graduate Air Quality Consultant

BSc, AMIEnvSC

Tel: 0161 706 0075 | Email: megan.hall@red-env.co.uk

KEY EXPERIENCE:

Megan is a Graduate 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 and industrial emissions using ADMS-Roads and ADMS-6. Studies have included impact assessment of ground level pollutant and odour concentrations and assessment of suitability of development sites for proposed end-use.
- Advanced Canyon Modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Odour surveys to assess amenity of suitability of sites for potential future development for residential use.
- Production of Air Quality Neutral Assessment in accordance with The London Plan.
- Measurement and assessment of indoor air quality in support of BREEAM accreditation. She has conducted Total Volatile Organic Compound (TVOC) and formaldehyde monitoring at numerous commercial developments throughout the UK in pursuit of the relevant credit specified under BREEAM category Hea 02 'Indoor Air Quality'.

SELECT PROJECTS SUMMARY:

Princess of Wales Hospital, Ely

Production of an Air Quality Assessment in support of the installation of an emergency generator unit located at Princess of Wales Hospital, Ely. Dispersion modelling of combustion emissions using ADMS-6 was undertaken in order to predict impacts at sensitive receptors. The results indicated pollutant levels as a result of the operation of the plant were below the relevant AQOs at all locations within the vicinity of the installation. Mitigation was therefore not required.

West Town Road, Avonmouth

Air Quality Assessment in support of a Bio-Compressed Natural Gas fuelling station on land off West Town Road, Avonmouth. Dispersion modelling was undertaken to determine potential changes in pollution levels as a result of emissions from the installation and consider potential impacts at nearby sensitive receptor locations. The overall effects of the development were predicted to be not significant.

Kent Street, Birmingham

Production of an Air Quality Assessment in support of the construction of a residential development across eight blocks. This development was located just outside the boundary of the Birmingham Clean Air Zone (CAZ). ADMS-Roads dispersion modelling was undertaken to determine the exposure of future residents to elevated pollutant concentrations. The results indicated that concentrations were below the relevant AQOs and Interim Target.

Nearsden Lane, London

Air Quality Neutral Assessment in support of the construction of a ten-storey building, with 74 commercial kitchen units. The assessment was carried out in accordance with the London Plan requirements to ensure proposals did not lead to further deterioration of existing air quality. Following discussions and implementation of the identified strategies, compliance with the London Plan was achieved.

Moss Side, Manchester

Odour Assessment in support of a residential development within Moss-Side, Manchester. The proposals were located in close proximity to the Heineken UK Limited Brewery. As such, the Local Authority raised concerns that odour emissions may cause loss of amenity to future residents. A programme of Field Odour Surveys was undertaken to assess odour impacts from said premises. Results indicated odour effects t the site did not represent a constraint to planning consent.

Arax Euston House, London

Indoor Air Quality Monitoring in support of the construction of a redeveloped office space. The scheme was registered to pursue certification through the BREEAM 2014 standard. As such, Indoor Air Quality Monitoring was undertaken at four locations to determine conditions within the building and identify any issues. The results indicated concentrations of TVOCs and formaldehyde were below the BREEAM criteria at all positions.