

Air Quality Assessment

1110 - 1112 Rochdale Road, Manchester, M9 6FQ

On Behalf of John Kenyon
July 2025



Document Control

Project Name	1110 - 1112 Rochdale Road, Manchester, M9 6FQ
Client	John Kenyon
Job Number	0686A
Item	Air Quality Assessment

Quality Management

Revision	Notes	Date	Author	Checked/ Approved
V1.0	Draft for client comment	09/07/2025	HP	Harley Parfitt (Air Quality Consultant)

Disclaimer

Amber Acoustics Ltd has used reasonable skill and care in carrying out this assessment, within the terms of the agreed scope of work. The report has been prepared for the sole use of the client and Amber Acoustics Ltd accepts no responsibility for any use of this document by any third party. Amber Acoustics accepts no responsibility for incorrect or inaccurate data provided by other parties, which are used in this assessment. Unless otherwise agreed, this document and all other intellectual property remains the property of Amber Acoustics Ltd.



Table of Contents

1	Introduction.....	4
2	Policy Context.....	1
	Air Quality Standards Regulations and Air Quality Strategy	1
	Air Quality Strategy and Environment Improvement Plan.....	1
	Local Air Quality Management Regime.....	2
	National Planning Policy Framework	3
	Planning Practice Guidance	4
	Local Planning Policy.....	6
	Air Quality Guidance.....	8
3	Methodology	10
	Consultation.....	10
	Baseline Conditions.....	11
	Construction Phase	11
	Dust Risk Assessment.....	11
	Construction Traffic and Non-Road-Mobile Machinery.....	12
	Operational Phase.....	12
	Impact Screening Assessment	12
	Ecological Receptors	12
	Sensitivity of Site	13
	Judgement of Significance	14
4	Baseline Conditions.....	16
	Local Air Quality Management	16
	Industrial Sources.....	16
	DEFRA / UK-AIR.....	16
	Local Monitoring	17
5	Operational Phase assessment	20
	Impact Assessment	20
	Sensitivity / Exposure Assessment.....	20
	NO2 Fall Off with Distance Calculation.....	22

Mitigation	23
Construction Mitigation	23
6 Discussion	25
7 Conclusion	27
Table 2:1: Air Quality Standards for England	1
Table 3:1: APEC Exposure Criteria	14
Table 4:1: UK-AIR predicted background concentrations for the Site	17
Table 4:2: Manchester City Council Air Quality Monitoring	17
Table 5:1: Site Type Classification	20
Table 5:2: Predictions of NO ₂ at the Site	22
Table 5:3: IAQM's Highly Recommended Dust Mitigation Measures	23



1 Introduction

1.1 Amber Acoustics Ltd was commissioned by John Kenyon to conduct an Air Quality Assessment for a planning application, to Manchester City Council (MCC), relating to a proposed mix-use development at 1110 - 1112 Rochdale Road, Manchester, M9 6FQ (the Site). A Site Location Plan is included in Figure 1.1, below.

1.2 The Proposed Development involves the construction of a two-storey side and rear extension, the conversion of the ground floor into three self-contained office units, and the transformation of the upper floors into two residential flats. One of the flats will be a duplex, occupying the first floor and roof space.

1.3 Planning permission for the Proposed Development has been granted (141906/FO/2025), subject to conditions. Condition 11 relates to air quality and states:

“Prior to commencement of the development, an air quality exposure assessment together with any mitigation measures to safeguard local air quality shall be submitted to and approved in writing by the City Council as local planning authority.

b. Prior to occupation of the development any agreed mitigation measures shall be implemented and verified as such in writing by the City Council as local planning authority and shall remain in situ whilst the use or development is in operation.

Reason: To secure a reduction in air pollution from traffic or other sources in order to protect existing and future residents from air pollution, pursuant to policies EN16, SP1 and DM1 of the Core Strategy.”

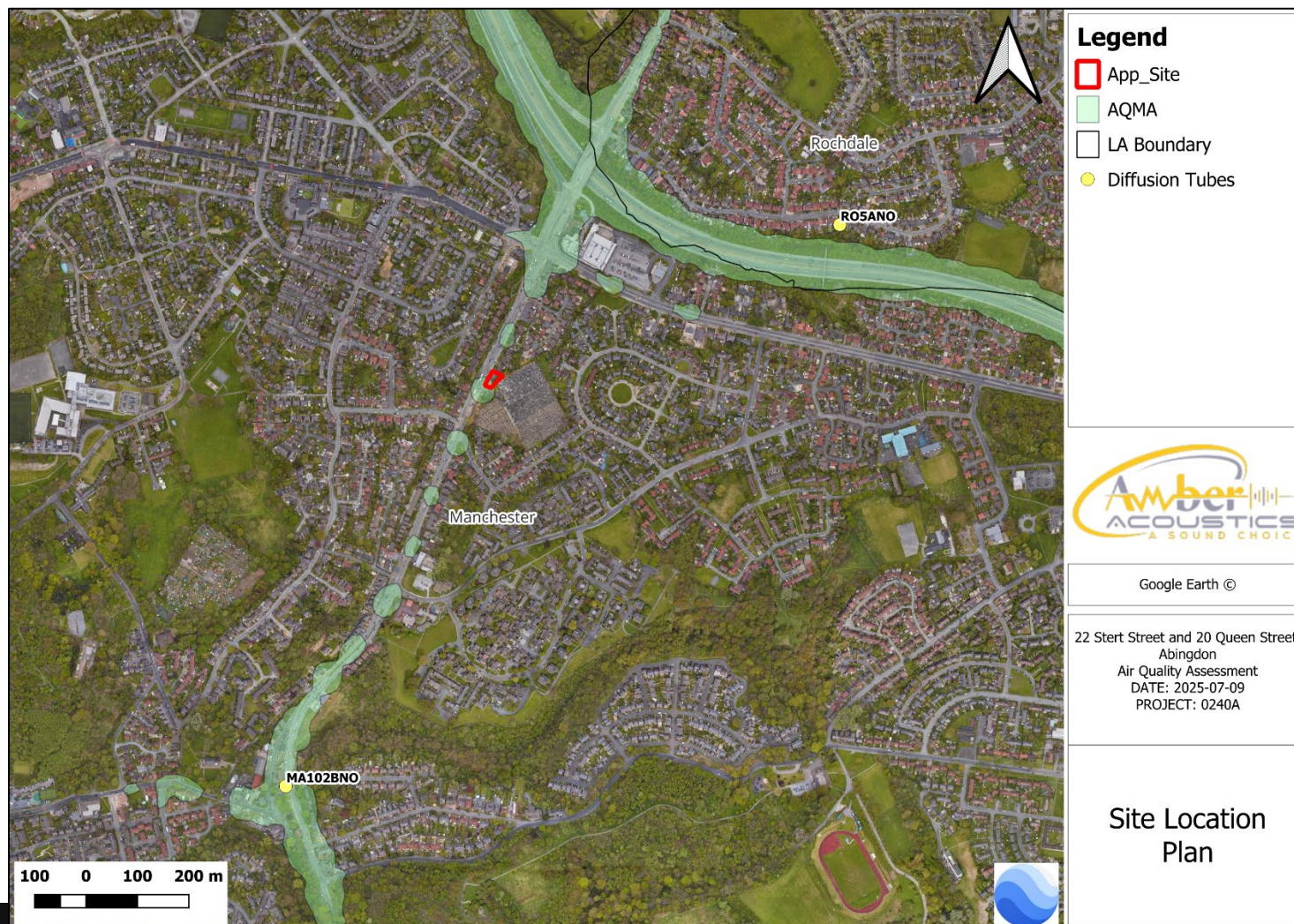
1.4 The surrounding land use is mixed; however, there is highly sensitive residential uses abutting the site (e.g. 1114 Rochdale Rd). Approximately the southern half of the Site is located within the Greater Manchester Combined Authority’s Air Quality Management Area (AQMA), i.e. an area where pollution levels exceed, or have historically exceeded, the national Air Quality Standards (AQS). The AQMA is declared for elevated levels of nitrogen dioxide (NO₂), primarily associated with road transport.



- 1.5 This Air Quality Assessment has been undertaken to evaluate whether the Proposed Development could expose users to unacceptable air quality or cause significant off-site increases in pollution during either construction or operation. It has been prepared with reference to best practice guidance from DEFRA, Environmental Protection UK (EPUK) & the Institute of Air Quality Management (IAQM).



Figure 1:1: Site Location Plan



2 Policy Context

Air Quality Standards Regulations and Air Quality Strategy

- 2.1 The Air Quality Standards (AQS) Regulations 2010¹ and subsequent amendments, regulate the concentrations of major pollutants in outdoor air in the UK, including particulate matter (PM₁₀ & PM_{2.5}), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), ozone (O₃), carbon monoxide (CO) and lead (Pb). These regulations seek to minimise the public's exposure to air pollution by requiring ambient concentrations to be within legally binding limit values, as well as target values.
- 2.2 The AQSs of relevance to this assessment are summarised in Table 2.1 below.

Table 2:1: Air Quality Standards for England

Pollutant	Averaging Period	Objective (µg/m ³)	Date to be achieved by
Nitrogen dioxide (NO₂)	1-hour mean not to be exceeded more than 18 times per year.	200	1 January 2005
	Annual Mean	40	1 January 2005
Particulate Matter (PM₁₀)	24-Hour Mean not to be exceeded more than 35 times per year	50	1 January 2005
	Annual Mean	40	1 January 2005
Particulate Matter (PM_{2.5})	Annual Mean	20	1 January 2020

Air Quality Strategy and Environment Improvement Plan

- 2.3 The Environment Act 1995 requires the Government and devolved administrations to produce a National Air Quality Strategy (NAQS) for the UK. This strategy sets out the

¹ Air Quality Standards Regulations 2010 (as amended) S.I 2008/30.



framework for improving ambient air quality across the UK. The last major update to the NAQS was published in 2007², with minor updates occurring in 2011 and in 2023.

- 2.4 Under the Environment Act 2021³, the Secretary of State is now required to review the NAQS every five years. The most recent review, published in April 2023, included a PM_{2.5} annual mean *target* of 10 µg/m³, to be achieved by 2040, in England. In support of this goal, the *Environment Improvement Plan* for England⁴ sets an interim PM_{2.5} *target* of 12 µg/m³ to be achieved at all monitoring stations, by 2028.
- 2.5 The National Government holds responsibility for meeting the PM_{2.5} targets, which aim to improve air quality across the country and, in turn, enhance public health. These targets focus on reducing PM_{2.5} levels rather than imposing strict limit values.
- 2.6 According to Interim DEFRA guidance⁵, these targets are not intended to be applied in the same way as air quality limit values within the planning process. The updated approach shifts away from solely assessing whether a development may exceed a legal threshold (i.e. a limit value). Instead, it emphasises that, wherever reasonably practicable, mitigation measures should be incorporated into design to minimise emissions of, and exposure to, PM_{2.5}.

Local Air Quality Management Regime

- 2.7 Part IV of the Environment Act 1995 and Part II of the Environment (Northern Ireland) Order 2002 sets out that it is the responsibility of every local authority to review air quality within its area and designate AQMAs where air quality limit values are not being achieved. An Air Quality Action Plan (AQAP) setting out the measures to reduce pollution in that area must then be put in place.

² Defra (2007) The Air Quality Strategy for England, Scotland, Wales, and Northern Ireland.

³ Environment Act 2021 SI No. 1274 (C. 72).

⁴ Department for Environment, Food & Rural Affairs (2023). Environmental Improvement Plan 2023. Available at: GOV.UK (Accessed: 14 April 2025).

⁵ Department for Environment, Food & Rural Affairs (DEFRA), 2025. PM_{2.5} Targets and Planning. Available at: <https://uk-air.defra.gov.uk/pm25targets/planning> [Accessed 2 May 2025].

- 2.8 The Greater Manchester Combined Authority has developed a Clean Air Plan to achieve legal compliance with limit values for NO₂ across Greater Manchester. Manchester City Council's AQAP supports the delivery of this wider Plan.

National Planning Policy Framework

- 2.9 The revised National Planning Policy Framework (NPPF)⁶, updated in December 2024, sets out the Government's planning policies for England and how these are expected to be applied. A key aim of the NPPF is to promote sustainable development and regarding conserving the natural environment, paragraph 187 states:

“Planning policies and decisions should contribute to and enhance the natural and local environment by: [...]

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

- 2.10 Paragraph 199 relates to compliance with legal limit values and how planning decisions should be consistent with local air quality policy and action plans. It states:

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

⁶ Ministry of Housing, Communities & Local Government (2024) National Planning Policy Framework

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”.

- 2.11 Paragraph 198 relates to the appropriate siting of development and the assessment of cumulative effects, it states:

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

- 2.12 Whilst principally relating to sustainable transport, Paragraph 110 is indirectly related to air quality and states:

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

Planning Practice Guidance

- 2.13 Planning Practice Guidance (PPG)⁷ provides advice on how the planning process can take account of the impact of new development on air quality. It sets out what should be included in an air quality assessment and provides detail of when air quality is likely to be relevant to a planning decision:

⁷ Department for Communities and Local Government (2024) Planning Practice Guidance Air Quality

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

When deciding the relevance of air quality, the PPG suggests this as important.

- Lead to changes (including any potential reductions) in vehicle-related emissions in the immediate vicinity of the Proposed Development or further afield. This could be through the provision of electric vehicle charging infrastructure; altering the level of traffic congestion; significantly changing traffic volumes, vehicle speeds or both; or significantly altering the traffic composition on local roads. Other matters to consider include whether The Proposed Development involves the development of a bus station, coach or lorry park; could add to turnover in a large car park; or involve construction sites that would generate large Heavy Goods Vehicle flows over a period of a year or more;*
- Introduce new point sources of air pollution. This could include furnaces which require prior notification to local authorities; biomass boilers or biomass-fuelled Combined Heat and Power plant; centralised boilers or plant burning other fuels within or close to an air quality management area or introduce relevant combustion within a Smoke Control Area; or extraction systems (including chimneys) which require approval or permits under pollution control legislation;*

- *Expose people to harmful concentrations of air pollutants, including dust. This could be by building new homes, schools, workplaces or other development in places with poor air quality;*
- *Give rise to potentially unacceptable impacts (such as dust) during construction for nearby sensitive locations;*
- *Have a potential adverse effect on biodiversity, especially where it would affect sites designated for their biodiversity value”.*

Local Planning Policy

2.14 The MCC Local Plan guides development within Manchester. It includes the following documents:

- The Core Strategy⁸
- Places for Everyone Joint Development Plan for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 to 2039⁹, which partially replaced some Core Strategy Policies.

2.15 The Core Strategy contains dedicated air quality policy *EN 16*, which states:

*“The Council will seek to improve the air quality within Manchester, and particularly within Air Quality Management Areas, **located along Manchester’s principal traffic routes and at Manchester Airport.** Developers will be expected to take measures to minimise and mitigate the local impact of emissions from traffic generated by the development, as well as emissions created by the use of the development itself, including from Combined Heat and Power and biomass plant.*

⁸ Manchester City Council (2024) Core Strategy Development Plan Document 2012–2027: Addendum March 2024. Available at: https://www.manchester.gov.uk/info/200074/planning/6573/core_strategy_2012-2027 (Accessed: 2 July 2025).

⁹ Greater Manchester Combined Authority (2024) Places for Everyone Joint Development Plan Document 2022–2039. Manchester: GMCA. Available at: <https://www.greatermanchester-ca.gov.uk/what-we-do/planning-and-housing/strategic-planning/places-for-everyone/> (Accessed: 2 July 2025).

When assessing the appropriateness of locations for new development the Council will consider the impacts on air quality, alongside other plan objectives. This includes cumulative impacts, particularly in Air Quality Management Areas.”

2.16 The part of Policy EN 16 which states: “and particularly within Air Quality Management Areas, located along Manchester’s principal traffic routes and at Manchester Airport” has been replaced by Joint Plan Policy S5, which states:

“A comprehensive range of measures will be taken to support improvements in air quality, focusing particularly on locations where people live, where children learn and play, where there are impacts on the green infrastructure network and where air quality targets are not being met, including:

- 1. Locating and designing development, and focusing transport investment, so as to reduce reliance on forms of transport that generate air pollution;*
- 2. Determining planning applications having regard to the most recent development and planning control guidance published jointly by the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK), and the most recent IAQM Guidance on the Assessment of Dust from Demolition and Construction, or relevant successor guidance, including the requirement for developers to submit construction management plans as appropriate;*
- 3. Requiring applications for developments that could have an adverse impact on air quality to submit relevant air pollution data so that adverse impacts on air quality can be fully assessed and development only permitted where they are acceptable and/or suitable mitigation can be provided;*
- 4. Restricting developments that would generate significant point source pollution such as some types of industrial activity and energy generation;*

5. *Significantly expanding the existing commercial network of electric vehicle charging points, both for public and private use, including as part of new developments;*
6. *Implementing the Clean Air Plan and associated measures;*
7. *Facilitating the more sustainable distribution of goods within the urban area, including through accommodating urban consolidation centres and urban distribution centres that use ultra-low-emission vehicles, and local delivery facilities to reduce repeat delivery attempts;*
8. *Designing streets to avoid trapping air pollution at ground level, including through the appropriate location and scale of buildings and trees;*
9. *Controlling traffic and parking within and around schools, early years sites and other locations that are particularly sensitive to air quality;*
10. *Promoting actions that help remove pollutants from the air, such as enhancing the green infrastructure network and using innovative building materials that capture air pollutants; and*
11. *Development should be located in areas that maximise the use of sustainable travel modes and be designed to minimise exposure to high levels of air pollution, particularly for vulnerable users.”*

2.17 *Spatial Principle 1 (SP1) states that “development in all parts of the City should [...] Minimise emissions, ensure efficient use of natural resources and reuse previously developed land wherever possible.”*

2.18 *DM1 Development Management requires that all development should consider “effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation”.*

Air Quality Guidance

2.19 This assessment has been prepared with reference to the following national and local guidance:

- DEFRA, *Local Air Quality Management Technical Guidance (LAQM.TG (22))* (2022)¹⁰;
- IAQM and EPUK, *Land-Use Planning and Development Control: Planning for Air Quality* (2017)¹¹;
- IAQM, *Guidance on the Assessment of Dust from Demolition and Construction* (2024)¹²;
- IAQM, *A guide to the assessment of air quality impacts on designated nature conservation sites* (2020)¹³
- MCC (2022) *Air Quality & Planning Technical Guidance*¹⁴

¹⁰ Defra. 2022. Part IV of the Environment Act 1995, Environment (Northern Ireland) Order 2002 Part III, Local Air Quality Management, Technical Guidance LAQM. TG(22).

¹¹ EPUK & IAQM. (2017). Land-Use Planning & Development Control: Planning for Air Quality.

¹² IAQM. (2024). Guidance on the assessment of dust from demolition and construction.

¹³ EPUK & IAQM. (2020). A guide to the assessment of air quality impacts on designated nature conservation sites.

¹⁴ MCC (2022) Air Quality & Planning Technical Guidance

http://www.manchester.gov.uk/info/500207/planning_and_regeneration/1962/additional_planning_guidance/3

3 Methodology

Consultation

- 3.1 The proposed scope of work was shared with MCC's Environmental Protection Officer (EPO) in May 2025 for comment. Amber Acoustics suggested that *Defra's fall of with distance calculator* could be used to predict concentrations of NO₂ at the facade of the Proposed Development using the tubes MA102BNO and MA101BNO. It was further suggested that no quantitative or semi-quantitative assessment of PM_{2.5} or PM₁₀ was necessary, as the GMCA AQMA is not designated for particulate matter.
- 3.2 The EPO, however, stated that they required an assessment of PM_{2.5} and PM₁₀ at the sensitive receptors within the report, but accepted the assessment approach relating to NO₂. In addition, the EPO also suggested that:
- Alternative ventilation would likely be required.
 - reference be made to the IAQM good practice guidelines
 - any boilers would need to be low NO_x (<40 mg/kWh) emission.
 - An assessment of the construction phase would be required, with recommendations provided for controlling fugitive dust emissions during any demolition and construction phase.
 - If car parking is being provided, recommendations should be made with regard to the provision of EVCPs in line with our guidance
 - Any assessment should have consideration of MCC's technical air quality guidance.
- 3.3 Amber Acoustics were not instructed to provide a construction dust risk assessment, nor to carry out dispersion modelling to make predictions for PM₁₀ or PM_{2.5} at the Proposed Development. A qualitative assessment of PM₁₀ and PM_{2.5} has however been provided.
- 3.4 Due to the minor nature of the Proposed Development and the absence of any significant demolition works, a formal construction dust risk assessment has not been

undertaken, as the potential for dust-related impacts is considered low. Nonetheless, in accordance with the EPO's recommendations, appropriate mitigation measures have been proposed to minimise dust emissions during construction and ensure alignment with DEFRA guidance.

Baseline Conditions

- 3.5 The purpose of a baseline assessment is to gather information on existing air quality to better understand how air quality might constrain, or be impacted by, a proposal.
- 3.6 A review of baseline conditions has been undertaken using data provided by DEFRA's UK AIR information resource¹⁵ and monitoring carried out by the GMCA¹⁶. Defra's Pollutant Release and Transfer Register¹⁷ was also reviewed to identify any major industrial or waste management sources in the vicinity.

Construction Phase

- 3.7 The construction phase of the Proposed Development will result in emissions of dust, fine particulates and other pollutants associated with construction traffic and non-road mobile machinery (NRMM).

Dust Risk Assessment

- 3.8 No significant demolition works are proposed, and the scale of the Proposed Development is minor. Approval is being sought for a 2-storey side and rear extension, whilst converting the ground floor into 3 no. separate offices and 2 no upper floor flats. The scale of this work is an order of magnitude less than a medium sized development, as per IAQM guidance. Furthermore, a significant proportion consists of internal renovations. As such, no formal construction dust risk assessment has been

¹⁵ Defra (2024) *Background Mapping data for local authorities – 2021* [Accessed online <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>]

¹⁶ Clean Air Greater Manchester (2025) *Monitoring reports*. Available at: <https://cleanairgm.com/data-hub/monitoring-reports/> (Accessed: 9 July 2025).

¹⁷ Defra. *UK Pollutant Release and Transfer Register (PRTR) data sets*. [Accessed online: <https://prtr.defra.gov.uk/pollutant-releases>]

conducted. However, this report includes the highly recommended mitigation measures for sites with a low risk of dust impact.

Construction Traffic and Non-Road-Mobile Machinery

- 3.9 LAQM.TG (22) outlines that impacts associated with exhaust emissions from on-site plant (NRMM) are unlikely to have a significant impact on air quality in most cases, where there are suitable controls and site management. The Proposed Development is minor and it is, therefore, highly unlikely that emissions from NRMM or construction traffic would cause significant effects at nearby receptors.

Operational Phase

Impact Screening Assessment

- 3.10 Minor development, on their own, are highly unlikely to cause significant increases in local air pollution concentrations. EPUK & IAQM guidance, therefore, advocates a two-stage screening approach. EPUK & IAQM guidance states that the impact of a proposal on air quality cannot be screened out, based on size alone, if there are:

- 10 or more residential units or a site area of more than 0.5ha; or
- 1,000 m² of floor space for all other uses or a site area greater than 1ha.

- 3.11 Coupled with any of the following:

- the development has more than 10 parking spaces.
- the development will have a centralised energy facility; or
- other centralised combustion process.

- 3.12 At the second screening stage, EPUK & IAQM guidance provides indicative criteria which can be used to screen out the potential for significant impacts caused by a Proposed Development.

Ecological Receptors

- 3.13 Air quality assessments must also consider the impact of operational traffic on designated ecological sites, considering the sensitivity of the receptor and the predicted change in pollution concentrations. As there are no statutory ecological

receptors in relevant proximity to the Site, the assessment of operational emissions on ecological receptors has therefore been scoped out

Sensitivity of Site

- 3.14 The proposal includes the introduction of residential and commercial uses and members of the public would therefore regularly spend significant periods there. As such, all the AQSs for NO₂, PM₁₀ and PM_{2.5} apply at the Site. On the ground floor, however, only office use is proposed and therefore only the 1-hour mean AQS for NO₂ would normally apply there.
- 3.15 LAQM.TG (22) guidance suggests that where annual mean concentrations of NO₂ are below 60µg/m³, exceedances of the 1-hour mean AQS for NO₂ is unlikely.
- 3.16 According to LAQM (TG) 22, an annual mean concentration of PM₁₀ greater than 31.9 µg/m³ indicates a likely exceedance of the 24-hour mean AQS.
- 3.17 As such, where annual mean concentrations of NO₂ and PM₁₀ are predicted to be less than 60µg/m³ and 31.9 µg/m³ it can be assumed that the location is compliant with the standards.
- 3.18 LAQM.TG (22) and AEA¹⁸ guidance provides details on how pollution concentrations fall with increasing distance from sources. These criteria, in combination with the results of the baseline assessment have been used to determine whether an exceedance of any UK AQS is likely across any part of the Site and whether detailed modelling would be required.
- 3.19 DEFRA's *NO₂ Fall Off with Distance Calculator*¹⁹ has also been used to determine the likely concentrations of NO₂ at the site, based on the results of local monitoring. The calculator estimates the annual mean NO₂ concentration at one distance from a road, using measurements made at a different distance from the same road. The tool was

¹⁸ AEA Energy & Environment (2008) Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance:

https://laqm.defra.gov.uk/documents/0802141004_NO2_WG_PracticalGuidance_Issue1a.pdf

¹⁹ DEFRA (2016) NO₂ Fall Off with Distance from Roads Calculator v4.2 .[Available online: <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/no2-falloff/>]

developed by DEFRA as it is not always possible to measure concentrations at exact locations of “relevant exposure”.

Judgement of Significance

3.20 In the absence of formal local criteria, the significance of the Proposed Development's exposure to air pollution was evaluated against the London Councils' Air Pollution Exposure Criteria (APEC)²⁰, as shown in Table 3.1.

Table 3:1: APEC Exposure Criteria

Criteria	Applicable Range NO ₂ Annual Mean	Applicable Range PM ₁₀	Recommendation
APEC – A	> 5% below national objective	Annual Mean: > 5% below national objective 24 hr: > 1-day less than national objective	No air quality grounds for refusal; however, mitigation of any emissions should be considered.
APEC – B	Between 5% below or above national objective	Annual Mean: Between 5% above or below national objective 24 hr: Between 1-day above or below national objective.	May not be sufficient air quality grounds for refusal, however appropriate mitigation must be considered e.g., Maximise distance from pollutant source, proven ventilation systems, parking considerations, winter gardens, internal layout considered, and internal pollutant emissions minimised.
APEC – C	> 5% above national	Annual Mean:	Refusal on air quality grounds should be anticipated, unless the Local Authority has a specific policy enabling such land use and

²⁰ London Council (2007) London Councils Air Quality and Planning Guidance

objective	> 5% above national objective 24 hr: > 1-day more than national objective.	ensure best endeavours to reduce exposure are incorporated. Worker exposure in commercial/industrial land uses should be considered further. Mitigation measures must be presented with air quality assessment, detailing anticipated outcomes of mitigation measures.
-----------	--	--

3.21 The criteria above are useful to evaluate the likely exposure of a proposal to air pollution. However, professional judgment, which considers the area of impact, the population exposure within this area and the validity of assumptions made during the assessment process, amongst other factors, has been used to determine the overall effect.

4 Baseline Conditions

- 4.1 A baseline assessment has been undertaken to provide a summary of the existing air quality environment in the local area.

Local Air Quality Management

- 4.2 Approximately the southern half of the Site is located within the GMCA AQMA. This AQMA is declared for historic exceedances of the annual mean AQS for NO₂, associated with road traffic emissions.
- 4.3 Between July 2021 and November 2007, this AQMA was also declared for exceedances of the 24-hour mean AQS for PM₁₀. There have been no identified exceedances of the 24-hour mean or annual mean AQSs for PM₁₀ in Manchester since, at least, 2007.

Industrial Sources

- 4.4 A review of the UK Pollutant Release and Transfer Register could not identify any industrial or waste management facilities in the vicinity that might have the potential to cause significant impacts at the Site. The closest facility on the register is the Middleton Civic Amenity Site – an installation for the disposal of non-hazardous waste - found circa 2,400m to the northeast.

DEFRA / UK-AIR

- 4.5 DEFRA provides predictions of annual mean concentrations of background NO₂, PM₁₀ and PM_{2.5}, at 1km² resolution across the UK. A summary of the predictions for the grid square (386500, 403500) containing the Site for the years 2021-2028 are set out in Table 4.1 below.

Table 4:1: UK-AIR predicted background concentrations for the Site

Pollutant	Annual Mean Concentration ($\mu\text{g}/\text{m}^3$)							
	2021	2022	2023	2024	2025	2026	2027	2028
NO₂	16.2	15.7	15.2	14.5	13.9	13.4	12.8	12.2
PM₁₀	13.3	13.2	13.2	13.1	13.1	13.0	13.0	12.9
PM_{2.5}	7.8	7.8	7.7	7.7	7.6	7.6	7.5	7.5

- 4.6 The data in Table 4.1 show that background annual mean concentrations of NO₂, PM₁₀ and PM_{2.5} are predicted to be below their respective AQSS across the Site, between 2021 and 2028.
- 4.7 Predicted background concentrations of NO₂, PM₁₀ and PM_{2.5} are predicted to fall between 2021 and 2028. This is due to the gradual improvement of the UK fleet with vehicles with cleaner engines and other local, regional, and national policies to reduce emissions across all sectors.

Local Monitoring

- 4.8 The GMCA manages a network of automatic monitoring stations and diffusion tubes in Manchester, monitoring NO₂, PM₁₀ and PM_{2.5}. Table 4.2 below summarises the most recent published NO₂ data in Manchester, within 3km, as well as all PM₁₀ and PM_{2.5} monitoring within 10 km.

Table 4:2: Manchester City Council Air Quality Monitoring

Site ID	Type	Distance to Site (m)	Annual Mean Concentration (µg/m³)/ Number of Exceedances				
			2019	2020	2021	2022	2023
NO ₂ (Annual Mean Concentration)							
RO5ANO	Roadside	718	24.5	16.5	16.4	16.4	14.2
MA102BNO	Roadside	870	-	28.3	31.0	32.8	32.2
MA101BNO	Roadside	1711	-	28.1	35.9	35.6	34.9
BUR-B3	Roadside	1960	36.4	24.0	29.0	27.8	-
BUR-B2	Roadside	2096	44.9	27.5	28.5	29.4	29.1
BU1NO	Roadside	2159	32.4	24.4	25.3	26.6	24.6

BUR-B1	Roadside	2188	62.1	40.2	42.6	46.2	44.3
MA98BNO	Kerbside	2287	36.2	26.6	28.9	28.6	27.6
RO4ANO	Urban Background	2670	33.2	22.2	22.8	22.7	23.0
OL1RANO	Roadside	2738	-	-	24.1	26.0	24.0
RO25ANO	Roadside	2759	34.7	25.9	30.9	33.0	31.1
MA100BNO	Roadside	2949	-	31.2	33.6	33.0	30.6
PM₁₀ (Annual Mean Concentration)							
BUR2	Roadside	4558	19	-	17.5	19	17
MAN3	Urban Centre	5708	20	15	15	17	15
BURW	Roadside	6420	18	16	15	16	14
MAN1	Kerbside	6731	26	18	18	18	18
RDL001	Roadside	8267	-	-	15.5	18	16
TS001	Roadside	8270	-	15.8	20	20	17
BUR1	Roadside	8825	17	18	17	18	16
CW	Roadside	9406	19	15	17	18	15
ECCL	Industrial	9652	15	14	15	17	15
PM₁₀ (24-hour mean – number of objectives)							
BUR2	Roadside	4558	9	0(25)	1(27)	6	2
MAN3	Urban Centre	5708	7	1	2	4	1
BURW	Roadside	6420	9	0	0	5	1
MAN1	Kerbside	6731	18	5	2	8	4
RDL001	Roadside	8267	-	-	0	6	1
TS001	Roadside	8270	-	1(25)	2	7	2
BUR1	Roadside	8825	10	3	1(23)	7	1
CW	Roadside	9406	9	0	0	1	1
ECCL	Industrial	9652	8	0	1	7	2
PM_{2.5} (Annual Mean Concentration)							
MAN3	Urban Centre	5708	12	8	9	10	9
RDL001	Roadside	8267	-	-	9.2	10	9
TS001	Roadside	8270	-	8.4	11	11	8
ECCL	Industrial	9652	9	8	9	10	9

- 4.9 Measured annual mean concentrations of NO₂ have been below the 40µg/m³ AQS at all but one monitoring site within 3km of the Site, since 2020. Measured annual mean concentrations of NO₂ show a downward trend between 2019 and 2023.
- 4.10 In 2023, the highest annual mean NO₂ concentration was recorded at BUR-B1, which is 2.2 km from the Site and located within 3m of Middleton Road – a major road.
- 4.11 The measured annual mean concentration of NO₂ at the nearest background monitoring site (RO4ANO) was 42.5% below the 40µg/m³ AQS, in 2023.
- 4.12 Measured concentrations of PM₁₀ and PM_{2.5} have been below all annual mean and short-term AQSs within 10km of the Site, since at least 2019 and there appears to be a downward trend in measured PM₁₀ concentrations.

5 Operational Phase assessment

Impact Assessment

- 5.1 The Proposed Development is minor, includes fewer than 10 car parking spaces and will likely have an all-electric energy strategy. Therefore, impacts on air quality can be screened out based on size alone, with reference to EPUK & IAQM criteria

Sensitivity / Exposure Assessment

- 5.2 AEA and LAQM.TG (22) guidance provide the following criteria to determine the site type, for the purposes of classifying monitoring locations. By combining the site type definition (e.g., background, roadside, urban background), reproduced in Table 5.1 below, with data provided in the baseline assessment, a judgement can be made on the likelihood of exceeding the relevant AQSs at the Site.

Table 5.1: Site Type Classification

Guidance	Definition of Site	Description
LAQM.TG (22)	Roadside	A site sampling typically within one to five metres of the kerb of a busy road (although distance can be up to 15 m from the kerb in some cases)
	Background	An urban location distanced from sources and therefore broadly representative of citywide background conditions, e.g., urban residential area
AEA Diffusion Tube	Roadside/ Kerbside	Kerbside sites should be within 1 m of the kerb and are usually fixed to street furniture. Roadside diffusion tubes should be sited between 1 and 5 m from the kerb edge and mounted ideally either on a lamp post or road sign on the pavement, or on the face of a building adjoining the pavement.
	Background	Urban background sites must be located: ○ >50 m from any major source of NO₂, such as multi-storey car parks. ○ >30 m from any very busy road (> 30,000 vehicles per day). ○ >20 m from a busy road (10,000 – 30,000 vehicles per day) or from any medium sized sources, e.g., petrol stations or ventilation outlets from catering establishments.

- >10 m from any main road. (Quiet roads, for example within residential estates, are acceptable); and
- >5 m from anywhere where vehicles may stop with their engines idling.

- 5.3 The closest part of the Proposed Development to Rochdale Road is located within 5m and therefore, the front façade of the Proposed Development would be located within a 'roadside' environment. As demonstrated in the baseline assessment, measured roadside concentrations of PM₁₀ and PM_{2.5} within 10km of the Site at roadside locations are generally below their respective annual mean AQSs, as well as the shorter-term AQSs for PM₁₀ and NO₂.
- 5.4 Measured concentrations of NO₂ exceeded 40 µg/m³ at one location within 3km of the Site in 2023, and 60 µg/m³ at one location in 2019. However, these measurements were recorded at monitoring site BUR-B1, which is located approximately 3 metres from Middleton Road—a road that experienced daily traffic flows of 44,197 vehicles in 2023²¹. In comparison, Rochdale Road experienced significantly lower traffic flows, at 21,333 vehicles per day²². As emissions from Middleton Road are likely to be roughly double those of Rochdale Road, the conditions at BUR-B1 are not considered representative of those at the Proposed Development.
- 5.5 As NO₂ levels tend to fall with height in urban areas, it is considered highly unlikely that concentrations of NO₂ would exceed the annual mean AQS at the first floor of the Proposed Development in the opening year where there is highly sensitive residential use. Furthermore, based on recent monitoring data, it is also highly unlikely that annual mean concentrations of NO₂ would exceed 60 µg/m³ at ground floor or upper floor levels.
- 5.6 MCC has not had an AQMA for PM₁₀ since 2007. As shown in Table 4.2, PM₁₀ concentrations, particularly in terms of exceedances of the 24-hour mean AQS, are falling. As the 24-hour mean standard for PM₁₀ is typically exceeded prior to the annual

²¹ Department for Transport (2025) *Manual count point 27313*. Available at: <https://roadtraffic.dft.gov.uk/manualcountpoints/27313> (Accessed: 9 July 2025).

²² Department for Transport (2025) *Manual count point 47456*. Available at: <https://roadtraffic.dft.gov.uk/manualcountpoints/47456> (Accessed: 9 July 2025).

mean AQS for PM₁₀, (as a likely exceedance occurs at 31.9 µg/m³), it is considered almost certain that PM₁₀ concentrations at the Site are well below their relevant AQSs.

- 5.7 Pollution levels at the rear of the Proposed Development are expected to be lower than those at the Rochdale Road façade due to increased distance from traffic emissions and potential shielding from the building structure.

NO₂ Fall Off with Distance Calculation

- 5.8 Table 5.2 shows the predicted concentration of NO₂ at the Site's Rochdale Road façade based on the measured concentrations at diffusion tubes MA102BNO and MA101BNO, which are located within 2 km of the Site.

Table 5.2: Predictions of NO₂ at the Site

Diffusion Tube	Distance (m)		NO ₂ Annual Mean Concentration (µg/m ³)		
	Monitoring site to kerb (m)	Site to kerb (m)	Background (UKAIR)	Monitored at tube	Predicted
MA102BNO	2	3.7	15.4	32.2	29.8
MA101BNO	2	3.7	15.4	34.9	32.1

- 5.9 Based on existing measurements in the local area, DEFRA's *NO₂ Fall Off With Distance Calculator* predicts that annual mean concentrations of NO₂ would have been at least 19.8% below the annual mean 40µg/m³ AQS, at the most polluted façade of the Proposed Development, in 2023. This is in APEC-A range, suggesting no grounds for refusal. All predicted concentrations are also well below the indicative threshold for likely exceedances of the short-term AQS for NO₂ (60µg/m³).
- 5.10 As air quality is improving in the area, it is considered highly likely that concentrations of NO₂ are, and will continue to be, below their annual mean and hourly maximum mean AQSs at the Site.

Mitigation

- 5.11 Annual mean concentrations of NO₂, PM₁₀ and PM_{2.5} across the Proposed Development are likely below their relevant AQSSs. As such, there is no requirement for an alternative ventilation strategy/ mechanical ventilation, from an air quality perspective.
- 5.12 However, a mechanical ventilation system is proposed. The MHVR system will include filters to reduce exposure to particulate matter, and to protect the system. If reasonably practicable, it is recommended that the inlets for the MHVR system are to the rear of the property where pollution levels are lower.

Construction Mitigation

- 5.13 Table 5.3 below includes the IAQM's highly recommended mitigation measures for sites with a low risk of dust impacts.

Table 5.3: IAQM's Highly Recommended Dust Mitigation Measures

Category	Mitigation Measures
General	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.
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 complaints log available to the local authority when asked.
	Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and the action taken to resolve the situation is recorded in the logbook
Monitoring	Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and inspect log available to the local authority when asked.
	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

	Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.
Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
	Avoid site runoff of water or mud.
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.
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate
	Use enclosed chutes and conveyors and covered skips
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
Waste management	Avoid bonfires and burning of waste materials

5.14 After the implementation of the mitigation measures listed in Table 5.3, the significance of each phase of the construction programme will be reduced and the residual impact is expected to be *negligible*, which is not significant. Additionally, some of these measures will help minimize PM_{2.5} emissions, aligning the Proposal more closely with DEFRA's interim PM_{2.5} planning guidance.

6 Discussion

- 6.1 Local and National Air Quality Policy seeks to sustain compliance with national objectives and limit values, and to prevent new development from contributing to, or being put at unacceptable risk, from unacceptable levels of air pollution. Furthermore, a key theme of the NPPF requires development to identify opportunities to improve air quality.
- 6.2 A review of the baseline air quality conditions was undertaken, referring to data provided by DEFRA/UK-AIR and MCC. Predicted and measured concentrations of NO₂ within 3km of the Site have mostly been below the relevant annual mean AQS and indicative threshold for potential exceedances of the 1-hour mean AQS, since at least 2019, and are declining. There is only one location within 3km where an exceedance of the annual mean AQS for NO₂ was recorded in 2023 – this location is, however, not considered representative of conditions at the Site.
- 6.3 Measured concentrations of PM₁₀ and PM_{2.5} have been well below all annual mean and short-term standards since at least 2019, within at least 10km of the Site.
- 6.4 The suitability of the Site was assessed by combining the results of the baseline assessment, with site classification criteria provided by AEA and DEFRA. This approach confirmed that most of the Rochdale Road façade is in a roadside environment. Roadside concentrations of all pollutants have generally been below their relevant AQSs in the local area in recent years, and no evidence could be identified that suggests pollutant levels at the Site would exceed those observed at monitored locations, based on traffic flows and proximity to junctions.
- 6.5 The NO₂ fall off with distance calculator predicts that concentrations of NO₂ would have been, at worst, 32.1 µg/m³ in 2023. As residential use at the Proposed Development begins at first floor and there is a downward trend in all pollutants, it is considered highly likely that NO₂ levels would, therefore, be well below their relevant AQSs across the Site.
- 6.6 As road traffic is the principal source of air pollution in the local area and there is no AQMA for particulate matter in Manchester, it is also considered highly likely that

concentrations of PM₁₀ and PM_{2.5} are also below their respective AQs at the Site. As such, the Site is judged to be suitable for its proposed use, in the absence of mitigation.

- 6.7 The Proposed Development includes fewer than 1,000 m² of floorspace or 10 dwellings and includes no sources of combustion or car parking. The potential for significant impacts on air quality could therefore be screened out, using EPUK & IAQM criteria. As such, The Proposed Development will not significantly impact local air quality.
- 6.8 Nevertheless, the NPPF and MCC planning policy requires that development “wherever possible” help to improve local environmental conditions and reduce exposure to air pollution. The Proposed Development is car free, has an all-electric energy strategy and includes mechanical ventilation. The Proposed operational mitigation is, therefore, judged to be consistent with the NPPF and local guidance.
- 6.9 Based on the size of the Proposed Development, as well as the number of receptors in vicinity, it was judged to present a low risk of dust soiling effects to neighbouring uses without a formal assessment. An appropriate level of mitigation was recommended to negate this risk. These measures should be incorporated into a construction management plan, or other similar document. The implementation of dust suppression measures will also reduce emissions of PM_{2.5}, supporting national efforts.

7 Conclusion

- 7.1 Amber Acoustics Ltd was commissioned by XXXXXXXXXXXXXXXXXXXX to conduct an Air Quality Assessment for a planning application relating to a proposed mix-use development at 1110 - 1112 Rochdale Road, Manchester, M9 6FQ (the Site). A Site Location Plan is included in Figure 1.1, below.
- 7.2 The assessment concludes that during the operational phase, the Proposed Development would have no significant impact on, nor would be significantly impacted by, local air quality.
- 7.3 The Proposed Development is judged to include an appropriate level of mitigation to minimise operational emissions.
- 7.4 A low level of dust suppression mitigation (e.g. wetting down surfaces) should be implemented to support national efforts to minimise PM_{2.5} emissions.
- 7.5 The Proposed Development is considered consistent with all local and national planning policy. Air quality should not, therefore, present a significant barrier to the planning process.