



AIR QUALITY ASSESSMENT

on behalf of

ROCHDALE BOROUGH COUNCIL

for

**REDWOOD SPECIAL EDUCATIONAL NEEDS
HUB, LAND OFF HEYWOOD OLD ROAD,
MIDDLETON**

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Summary

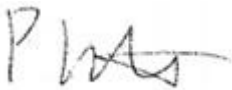
This air quality report has been prepared to accompany a planning application for Redwood Special Educational Needs Hub, Land off Heywood Old Road, Middleton. It assesses the potential changes in air quality due to the construction and operation of the proposed development and whether these potential changes would significantly alter air quality.

The assessment of dust soiling and human health impacts during the construction phase of the development results in the proposal of dust mitigation measures. The implementation of these will ensure that residual dust impacts during the construction phases are not significant.

Concentrations of NO₂ and PM₁₀ are likely to be below their respective long and short-term objectives at the proposed development site, which is therefore considered suitable for the intended school use with regard to air quality. Concentrations of PM_{2.5} are expected to be below the annual mean target.

The proposed development is not expected to have a significant effect on local air quality.

There is, therefore, no reason for this application to be refused on the grounds of air quality.

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Signed		Signed	
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1 Introduction

- 1.1 Miller Goodall Ltd has been instructed to prepare an air quality assessment to accompany a planning application for Redwood Special Educational Needs Hub, Land off Heywood Old Road, Middleton. The site lies within the administrative boundary of Rochdale Borough Council (RBC).
- 1.2 The report provides an assessment of the potential air quality impacts associated with the construction and operational phases of the proposed development. Existing air quality at and around the development is reviewed, and the potential effect of the development on local air quality is assessed following Defra¹ and EPUK and IAQM guidance².
- 1.3 The main pollutants of health concern from road traffic exhaust releases are nitrogen dioxide (NO₂) and fine particulates, normally assessed as the fraction of airborne particles of mean aerodynamic diameter less than ten micrometres (PM₁₀) and 2.5 micrometres (PM_{2.5}) since these pollutants are most likely to approach their respective air quality objectives in proximity to major roads and congested areas. This assessment has therefore focused on the impact of the proposed development on concentrations of NO₂, PM₁₀ and PM_{2.5}.

2 Site Description

- 2.1 The site is located on open land approximately 2.1 km to the northwest of Middleton at the urban edge. The site lies in the grounds of Edgar Wood Academy, built in 2022, which is now operational.
- 2.2 A copse of trees and Whittle Brook border the site to the north, with dwellings and an under-construction residential development located beyond. Open land borders the site to the east, with dwellings located beyond. The external school grounds of Edgar Wood Academy border the site to the south, with the school located beyond. Dwellings and Heywood Old Road border the site to the west, with dwellings and open land located beyond.
- 2.3 The site is not located in an Air Quality Management Area (AQMA). The nearest AQMA is 480 m to the north of the site, declared along the route of the M62, but also crossing Heywood Old Road. The site location and AQMA are shown in **Appendix A**.

¹ Department for the Environment Food and Rural Affairs (2022). Local Air Quality Management Technical Guidance Document LAQM.TG(22)

² EPUK and IAQM (January 2017) Land Use Planning and Development Control: Planning for Air Quality (v1.2)

3 Proposed Development

- 3.1 The development involves the construction of a Special Educational Needs and Disabilities School (SEND School). The layout includes the school building, 64 car parking spaces, 12 space minibus drop off, a multi-use games area, landscaping and a nature walk. Site access is off Heywood Old Road, and it will utilise the existing Edgar Wood Academy junction and access.

4 Policy Context

4.1 National Planning Policy Framework

- 4.1.1 The National Planning Policy Framework^[3] advises at Paragraph 199 that development should be compliant with relevant objectives and limit values, opportunities to improve air quality should be included particularly at the design stage, and that new development should be consistent with existing air quality areas of concern and the local air quality action plans. The key theme of the policy is that existing areas of poor air quality (for example AQMAs or Clean Air Zones) should be not significantly worsened by a development scheme.

4.2 Planning Practice Guidance

- 4.2.1 The Planning Practice Guidance (PPG)⁴, provides guidance on how planning can take account of the impact of new development on air quality. It provides advice on how assessments should be prepared, information sources to use, what impacts and issues should be predicted, and mitigation.

4.3 Air Quality Objectives

- 4.3.1 The standards and objectives relevant to the LAQM framework have been prescribed through the Air Quality (England) Regulations (2000) and the Air Quality (England) (Amendment) Regulations 2002; the Air Quality Standards Regulations 2010 set out the combined Daughter Directive limit

³ Ministry of Housing, Communities and Local Government, 2024. National Planning Policy Framework

⁴ Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities, *Planning Practice Guidance - Air Quality* 2019 [Air quality - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/air-quality)

values and interim targets for Member State compliance. This framework of air quality legislation was converted into domestic law through the European Union (Withdrawal) Act 2018^[5].

4.3.2 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 establish long term PM_{2.5} targets to be met by 2040. Defra has published an Interim Planning Guidance webpage to assist in applying the legislation in the context of planning decision-making processes⁶. The guide seeks to expand the decision-making process from a conclusion based on whether an exceedance does or does not occur, and instead seeks to encourage the developer to consider PM_{2.5} exposure reduction through good design and mitigation from the outset, and report on these actions taken. The relevant air quality standards and objectives⁷ are presented in **Table 1**.

Table 1: Air Quality Strategy Objectives (England) for the Purposes of Local Air Quality Management

Pollutant	Air Quality Objective	
	Concentration	Measured As
Nitrogen dioxide (NO ₂)	200 µg/m ³	1-hour mean not to be exceeded more than 18 times per year
	40 µg/m ³	Annual mean
Particles (PM ₁₀)	50 µg/m ³	24-hour mean not to be exceeded more than 35 times per year
	40 µg/m ³	Annual mean
Particles (PM _{2.5})	20 µg/m ³	Annual mean (target)
	10 µg/m ³	Annual mean (target) (to be achieved by 2040)

4.3.3 Pollutant standards relate to ambient pollutant concentrations in air, set based on medical and scientific evidence of how each pollutant affects human health. Where an air quality objective is unlikely to be met by the relevant deadline, local authorities must designate those areas as AQMAs and take action to work towards meeting the objectives. Following the designation of an AQMA,

⁵ UK Parliament (2018): <http://www.legislation.gov.uk/ukpga/2018/16/contents/enacted>

⁶ Department for the Environment Food and Rural Affairs (2024). PM_{2.5} Targets: Interim Planning Guidance

⁷ UK Parliament (2020): <https://www.legislation.gov.uk/uksi/2020/1313/made>

local authorities are required to develop an Air Quality Action Plan (AQAP) to work towards meeting the objectives and to improve air quality locally.

- 4.3.4 Possible exceedances of air quality objectives are generally assessed in relation to those locations where members of the public are likely to be regularly present and are likely to be exposed for a period of time appropriate to the averaging period of the objective.

4.4 Places for Everyone Joint Development Plan

- 4.4.1 Greater Manchester Combined Authority (GMCA) has adopted the Places for Everyone (PfE) Joint Development Plan⁸. The intention behind this document is to establish a joint approach for several Greater Manchester local authorities, with respect to creating a long-term plan for jobs, new homes and sustainable growth. While the PfE sets out the strategy and policies to guide sustainable growth, it also allocates sites for development across Greater Manchester.
- 4.4.2 Policy JP-S5 Clean Air identifies actions related to air quality. The Policy identifies 11 items that range from new development (creating good designs, promoting electric vehicle charging, assessments and guidance, mitigation) to actions at the local authority level (implementing the clean air plan, controlling traffic levels at schools).

4.5 Greater Manchester Action Plan 2016–2021

- 4.5.1 The Greater Manchester Combined Authority (GMCA) Air Quality Action Plan 2016–2021^[9] provides information in respect of the actions planned by the Greater Manchester Authorities in relation to declared AQMAs. Action Plans are the mechanism by which the local authorities, in collaboration with national agencies and others, outline their plans for working towards achieving the air quality objectives through the powers available to them. In relation to managing new development, the action plan states that:

“Action 1.1

Greater Manchester (GM) councils to adopt the most recent IAQM Guidance on the Assessment of Dust from Demolition and Construction as current best practice to assess and mitigate emissions

⁸ Greater Manchester Combined Authority, 2024. Places for Everyone Joint Development Plan 2022 to 2039

⁹ GMCA (2016) Greater Manchester Air Quality Action Plan 2016–2021

from construction sites. i. Where a key priority area is affected by a proposed scheme, a high level of mitigation control will be requested.

Action 1.2

GM local authorities will adopt the most recent IAQM/EPUK guidance for air quality assessment as current best practice, to help ensure that planning applications consider potential local air quality impacts and opportunities to improve air quality are realised. i. Where a Key Priority Area is significantly adversely affected by a proposed scheme, a high level of mitigation control will be requested. ii. The IAQM/EPUK guidance will also be used to screen and assess industrial sources, such as boilers or large stationary engines. GM local authorities to recommend mitigation controls in accordance with the most recent guidance and the other actions in this document for new developments that contribute to a deterioration of air quality in Air Quality Management Areas (AQMA). Where an air quality assessment is triggered, it should include a review of monitoring data. Where monitoring is not currently undertaken, it may be requested to inform the application or to confirm the effects."

4.5.2 Greater Manchester was identified in the Government's mandate to prepare a Clean Air Zone (CAZ). This was initially scheduled to be a charging CAZ, however, GMCA proposed an 'investment-led' CAZ, which was approved by Defra¹⁰.

4.5.3 At the time of writing, there has not been an update of the action plan past the 2021 date. It is still active and applies. The 2024 Annual Status Report states: "Defra further acknowledged that it is necessary to understand how successful the CAP [Clean Air Plan] measures are in addressing compliance at all locations and agreed to extend the requirement for a revised AQAP, provisionally, until June 2027, at which point they will reassess whether compliance has been achieved or whether a revised AQAP is needed".

5 Methodology

5.1 Data Sources

5.1.1 The air quality assessment has been undertaken and prepared with reference to information from several sources, as detailed in **Table 2**.

¹⁰ Department for Environment, Food and Rural Affairs, 2025. Available at: <https://www.gov.uk/government/news/government-backs-local-plans-for-clean-air-in-greater-manchester--2>

Table 2: Key Information Sources

Data Source	Reference
Greater Manchester Combined Authority (GMCA)	GMCA (2025) <i>2024 Air Quality Annual Status Report for Greater Manchester</i>
	GMCA (2016) <i>Greater Manchester Air Quality Action Plan 2016–2021</i>
	GMCA Greater Manchester Clean Air website Home Clean Air Greater Manchester (cleanairgm.com)
	GMCA (2024) <i>Places for Everyone Joint Development Plan</i>
Institute of Air Quality Management (IAQM)	IAQM “Guidance on the assessment of dust from demolition and construction” v2.2 2024
Department for Environment Food and Rural Affairs (Defra)	Defra <i>Local Air Quality Management Technical Guidance TG(22)</i> , updated 2022
Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM)	EPUK and IAQM (January 2017) <i>Land Use Planning and Development Control: Planning for Air Quality (v1.2)</i>
Ministry of Housing, Communities & Local Government	Planning Practice Guidance: Air Quality, November 2019
	National Planning Policy Framework (NPPF), December 2024
Defra’s LAQM Support Tools	Local Air Quality Management 1 km x 1 km grid background pollutant maps
SCP Transport: Transportation Planning & Infrastructure Design	

5.2 Consultation

- 5.2.1 The proposed air quality assessment methodology was sent to RBC Environmental Health Department on 12th January 2026 and 21st January 2026. At the time of writing, no reply had been received to the consultation.
- 5.2.2 The consultation sought to agree on a simple air quality assessment methodology, based on traffic flow information and routing. Evidence for this approach is outlined within this report.

5.3 IAQM Construction Dust Assessment

5.3.1 The IAQM has produced guidance¹¹ on the assessment of air quality impacts arising from dust associated with construction and demolition activities and provides a methodology by which to complete such assessments. The IAQM methodology provides a risk assessment structure to determine the likely impact of the development on nearby receptor locations and recommends mitigation measures that should be implemented to reduce any such impact. The methodology for the assessment is shown in **Appendix B**. The study area in relation to dust and the zones of interest used within the assessment (<20 m, 20 m – 50 m and 50 – 100 m from the site) are shown in **Appendix C**. The dust assessment informed the recommended mitigation outlined in **Appendix D**.

5.4 Simple Air Quality Assessment

5.4.1 A simple assessment of air quality in terms of the impact of the development and suitability of the site, which relies on already published information, has been completed using sources such as the Local Authority's monitoring network and the Defra LAQM support tools.

6 Baseline Air Quality

6.1 Local Air Quality

6.1.1 Baseline air quality at and around the site of the proposed development has been established by examining monitoring data produced by RBC (provided on the Greater Manchester Clean Air website¹²) and background concentration maps provided by Defra for the grid squares covering the proposed development.

6.1.2 The Greater Manchester AQMA has been declared based on the outputs of air dispersion modelling conducted in 2016. All locations across Greater Manchester that were predicted to be above an NO₂ annual mean of 35 µg/m³ were declared as part of the AQMA. The annual mean objective is 40 µg/m³, the selection of 35 µg/m³ as the threshold was selected to account for model uncertainty.

6.1.3 The site is not located within an AQMA, but there are several AQMAs nearby:

¹¹ Institution of Air Quality Management, 2024. Guidance on the assessment of dust from demolition and construction" v2.2

¹² Greater Manchester Clean Air. Data Hub. Available at: <https://cleanairgm.com/data-hub/>

- The M62 and an approximate 40 m outward distance from the carriageway. This includes part of the Heywood Old Road as it passes beneath the M62, approximately 480 m to the north of the site.
- The M60 and routes leading to Junction 19, approximately 2.5 km to the south of the site. Part of Heywood Old Road, as it joins the A576, is included in the AQMA.
- Middleton town centre and Long Street leading into it, approximately 1.9 km to the southeast.

6.2 Development traffic leaving the site may enter these AQMAs, as they exist on all exit routes away from the site. The site location and its relationship to the AQMA are shown in **Appendix A**. The AQMA was declared in 2016, on the basis of annual average levels of NO₂.

6.3 Air Quality Monitoring

Nitrogen Dioxide (NO₂)

- 6.3.1 RBC operates two diffusion tubes in Middleton. RO6A is approximately 700 m to the north of the site on Heywood Old Road and beneath the M62 carriageway overpass, which is located in the M62 AQMA.
- 6.3.2 RO4A is approximately 1.95 km to the southeast of the site on Long Street (A664), within the Middleton town centre AQMA. The ASR lists RO4A as urban background; however, it is located within 7 m of the A664. The recorded concentration is also elevated and is similar to concentrations recorded at other nearby roadside classification monitors.
- 6.3.3 RBC previously operated diffusion tube RO32, which was located 125 m to the north of the site on Heywood Old Road. This monitor was stopped in 2023.
- 6.3.4 The results from these diffusion tubes are shown in **Table 3** and the monitor locations are shown in **Appendix A**.

Table 3: Annual Mean NO₂ Concentrations Monitored by RBC within the Study Area

Site ID & Classification	Location		Annual Mean NO ₂ Concentrations (µg/m ³)				
			2020	2021	2022	2023	2024
RO4A (Urban Background)*	387080	406278	22.20	22.80	22.70	23.00	20.30
RO6A (Kerbside)	385413	408320	31.80	32.30	34.70	28.90	24.30
RO32A (Roadside)	385145	407701	-	26.56	30.3	27.9	-

Site ID & Classification	Location	Annual Mean NO ₂ Concentrations (µg/m³)				
		2020	2021	2022	2023	2024
Annual Mean NO ₂ air quality objective		40 µg/m³				
*considered to be roadside classification due to road proximity						

6.3.5 The monitoring results in **Table 3** indicate that annual mean concentrations of NO₂ were below the NO₂ annual mean objective at the identified monitoring sites during the period shown.

6.3.6 The results indicate that the short-term objective for NO₂ was unlikely to be exceeded at the identified monitoring sites as monitored annual mean concentrations were well below the indicative screening concentration of 60 µg/m³ during the period shown.

Particulate Matter (PM₁₀ & PM_{2.5})

6.3.7 RBC does not undertake PM₁₀ or PM_{2.5} monitoring in the vicinity of the proposed development site, neither is there any nearby representative monitoring available. There are several automatic monitors positions in the GMCA administrative area. There have been no recorded exceedances of particulate matter in 2024.

6.4 Background Concentrations

6.4.1 There are no background monitoring locations in the vicinity of the proposed development site or at any nearby relevant receptor locations.

6.4.2 Background concentrations of NO₂, PM₁₀ and PM_{2.5} obtained from the 2021-based background concentration maps provided by Defra for the grid squares covering the proposed development and receptor locations¹³ are shown in **Table 4**.

Table 4: Background Pollutant Concentrations Obtained for the 1km x 1km Grid Square Covering the Site

Grid Square	Pollutant	2026
		(µg/m ³)
385500, 407500	NO ₂	11.05
	PM ₁₀	11.78
	PM _{2.5}	6.76

¹³ <http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>

7 Construction Dust Impact Assessment

7.1 Step 1 – Requirement for a Detailed Assessment

- 7.1.1 There are sensitive receptors located within 250m of the site boundary; therefore, a detailed assessment of the construction phase of the development has been undertaken. There are no ecological designations within 50m of the site boundary or 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s) which require assessment.

7.2 Step 2 – Assess the Risk of Dust Impacts

Step 2A Dust Emission Magnitude

- 7.2.1 The potential dust emission magnitude in relation to the development has been determined using the criteria detailed in **Table B1** in **Appendix B**. The scale and nature of works onsite were considered to determine the potential dust emission magnitude for earthwork activities, construction and trackout activities. No demolition is required at the development site.
- 7.2.2 Information to determine the classification has been estimated from the site plans, Google Earth and information provided by the Applicant. The dust emission magnitude is outlined in **Table 5**.

Table 5: Dust Emission Magnitudes for Each Activity

Activity	Dust Emission Magnitudes	Justification for Sensitivity Classification
Earthworks	Medium	the site area is between 18,000 m² – 110,000 m².
Construction	Medium	total building volume estimated to be constructed is between 12,000 to 75,000 m³.
Trackout	Medium	there are likely to be between 20 to 50 HDV outward movements in any one day

Step 2B Sensitivity of the Receptors to Dust Soiling and Health Effects

- 7.2.3 Edgar Wood Academy is located between 50 to 100 m to the south of the site, and there is expected to be more than 100 pupils present. The trackout route does not pass the school. Dwellings are located within a distance of 20 m of the road edges used by traffic associated with the site construction. In accordance with the criteria in **Table B2** in **Appendix B** and the IAQM guidance, the sensitivity of human receptors is **high**.

Step 2B Sensitivity of the Area to Dust Soiling and Human Health Effects of PM₁₀

- 7.2.4 The sensitivity of the area for dust soiling and human health effects has been determined using the criteria detailed in **Table B3 and Table B4**, respectively in **Appendix B**.
- 7.2.5 The sensitivity of the area to dust soiling and human health for each activity is summarised in **Table 6**.

Table 6: Outcome of Defining the Sensitivity of the Area

Pollution	Activity	Sensitivity of the Surrounding Area	Justification for Sensitivity Classification
Dust Soiling	Earthworks	High	There are more than 100 highly sensitive receptors between 50 to 100 m of the site boundary.
	Construction	High	There are more than 100 highly sensitive receptors between 50 to 100 m of construction activity.
	Trackout	Medium	There are 1 – 10 highly sensitive receptors within 20 m of the trackout route, up to 200 m of the site exit.
Human Health	Earthworks	Medium	There are more than 100 highly sensitive receptors between 50 to 100 m of the site boundary. Background PM ₁₀ pollutant concentrations are below 24 µg/m ³ .
	Construction	Medium	There are more than 100 highly sensitive receptors between 50 to 100 m of construction activity. Background PM ₁₀ pollutant concentrations are below 24 µg/m ³ .
	Trackout	Low	There are 1 – 10 highly sensitive receptors within 20 m of the trackout route, up to 200 m of the site exit. Background PM ₁₀ pollutant concentrations are below 24 µg/m ³ .

Step 2C Risk of Impacts

- 7.2.6 The dust emission magnitude and sensitivity of the area were combined, and the risk of impacts have been determined using the criteria detailed in **Table B5 to Table B8** in **Appendix B**.
- 7.2.7 A summary of the risks, before mitigation measures are applied, for dust soiling and human health are shown in **Table 7**.

Table 7: Risk of Dust Impacts

Potential Impact	Dust Risk		
	Earthworks	Construction	Trackout

Dust Soiling	Medium	Medium	Medium
Human Health	Medium	Medium	Low

7.3 Step 3 – Site-Specific Mitigation

- 7.3.1 Step 3 of the IAQM guidance identifies appropriate site-specific mitigation. These measures are related to the site risk for each activity. Mitigation measures specific to earthworks, construction and trackout are proposed based on the risk classifications in **Table 7**. Recommended mitigation measures are shown in **Appendix D**.
- 7.3.2 The general mitigation measures (for site management, preparing and maintaining the site, operating vehicle/machinery, operations and waste management), are appropriate for a site with a ‘medium risk’ classification¹⁴.

7.4 Step 4 – Determine Significant Effects

- 7.4.1 The characteristics of the site and the surrounding area suggest that mitigation would not be impracticable or ineffective. With the implementation of the mitigation measures, therefore, the residual impacts from the construction are considered to be not significant when considered following IAQM guidance.

8 Effect of Air Quality on the Proposed Development

- 8.1 The concentrations in **Table 4** indicate that background concentrations of NO₂, PM₁₀ and PM_{2.5} around the development are well below health-based air quality objectives of 40 µg/m³ for these pollutants.

¹⁴ For those mitigation measures that are general, the highest risk category should be applied. For example, if the site is medium risk for earthworks and construction, but a high risk for demolition and track-out, the general measures applicable to a high risk site should be applied.

- 8.2 RBC currently operates one diffusion tube on Heywood Old Road (RO6A) and recently closed another in 2023 (RO32A). RO6A is located beneath the M62 AQMA overpass, and is also classed as a kerbside site that is defined as being in proximity to the road. RO32A is highly representative of the site, as it is located on the section of Heywood Old Road passing the development site, and a location representative of non-AQMA conditions. This monitor was closed at the end of 2023 and includes a full 2023 dataset. NO₂ results from these two monitors are shown in **Table 3**, and concentrations are below 75% of the air quality objectives; a trend recorded for several years.
- 8.3 The development site borders Heywood Old Road; however, the school building is set well back into the development plot at up to 200 m from the roadside. Future pupils will, therefore, be distant from nearby road pollutant sources. Pollution reduces with distance from the road; therefore, concentrations are expected to be similar to the urban background at the school building position.
- 8.4 LAQM.TG(22) provides a qualitative screening approach to determine whether there is a risk of exceedance of the one-hour NO₂ air quality objective. If the ambient NO₂ annual mean concentration is above 60 µg/m³ there is a risk that the one-hour objective (200 µg/m³) may be exceeded. The monitored NO₂ concentrations, shown in **Table 3**, are all well below 60 µg/m³ and, therefore, when considered in light of guidance in LAQM.TG(22), the 1-hour mean objective is unlikely to be exceeded.
- 8.5 The AQMA is only declared only on the basis of annual average levels of NO₂, not PM₁₀ concentrations. There have been no recorded PM exceedances in the wider GMCA automatic monitoring network across the city. The risk of PM exceedance at the development site is considered to be low.
- 8.6 The evidence from existing information sources is that the proposed development site is likely to experience levels of NO₂, and PM₁₀ below the annual mean and short-term objectives and PM_{2.5} concentrations below the annual mean target.

9 Impact of the Proposed Development on Existing Air Quality

- 9.1 The proposed development will introduce an increase in road traffic of 222 Annual Average Daily Traffic (AADT), primarily comprising light-duty vehicles (LDV) with a negligible number of heavy-duty vehicles (HDV). Most pupils will arrive by minibus, reducing private vehicle use.
- 9.2 Upon leaving the site and exiting onto Heywood Old Road, 75% of the total traffic will leave northbound (167 AADT), and 25% will travel south (56 AADT).

- 9.3 If the total development flows are below 500 LDV AADT outside an AQMA, or 100 LDV AADT within an AQMA then, as detailed in EPUK 2017 Guidance², there is not expected to be a significant risk of air quality change. Air quality changes from trip generation below these criteria can be concluded as not significant.
- 9.4 Concerning the southbound trips, these are below 100 LDV AADT. There is an insignificant risk of air quality impact at sensitive receptors in the M60, Junction 19 AQMA, to the south of the site.
- 9.5 The northbound route leads to the AQMA declared over the M62 and the dwellings beneath the overpass. The transport assessment has only assessed distribution at the site exit, but does advise that traffic will reduce further at Langley Lane. Langley Lane provides access to the wider Middleton urban area, which is expected to be part of the pupil catchment area.
- 9.6 Consequently, the AADT on Langley Lane (towards Middleton AQMA) and Heywood Old Road (towards the M62 AQMA) are expected to be below 100 LDV AADT once further vehicle distribution occurs at the Langley Lane/Heywood Old Road T-junction.
- 9.7 RO6A indicates NO₂ concentrations are less than 75% of the annual mean air quality objective at sensitive receptors in the M62 AQMA at Heywood Old Road. The EPUK and IAQM guidance² states:
- “The criteria provided are precautionary and should be treated as indicative. They are intended to function as a sensitive ‘trigger’ for initiating an assessment in cases where there is a possibility of significant effects arising on local air quality. This possibility will, self-evidently, not be realised in many cases. The criteria should not be applied rigidly; in some instances, it may be appropriate to amend them on the basis of professional judgement, bearing in mind that the objective is to identify situations where there is a possibility of a significant effect on local air quality.”*
- 9.8 The building will be heated using air source heat pumps. There are no building emissions created that impact air quality.
- 9.9 The potential for air quality changes arising from development traffic to cause adverse effects can be concluded as not significant.

10 Mitigation

- 10.1 The effects of construction dust will be controlled by means of dust mitigation and management, as outlined by the selection of measures in **Appendix D**.

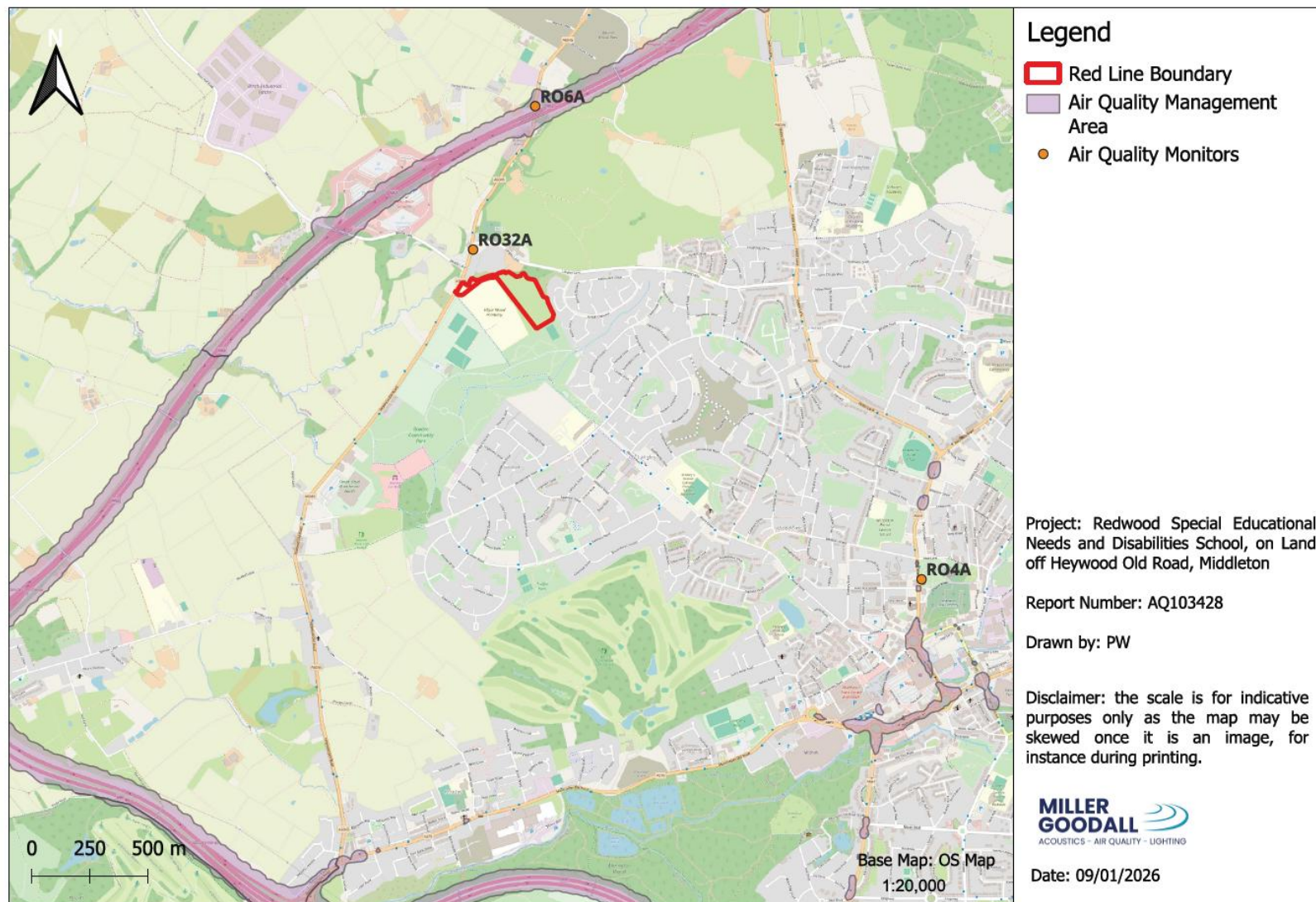
- 10.2 The development is expected to have a not significant effect on local air quality. Based on the results of this assessment, no further mitigation in relation to the operational phase is deemed to be required.
- 10.3 Electric vehicle charging spaces will be provided in accordance with Building Regulations Approved Document S: Infrastructure for the charging of electric vehicles (2021 Edition). Requirement S4 states:
- Where a new building which is not a residential building or a mixed-use building has more than 10 parking spaces— (a) one of those parking spaces must have access to one electric vehicle charge point; and (b) cable routes for electric vehicle charge points must be installed in a minimum of one fifth of the total number of remaining parking spaces.*
- 10.4 The proposals provide 58 parking spaces. 12 of these spaces must include EV-ready cabling.

11 Summary of Impacts and Conclusion

- 11.1 This air quality report assesses the potential changes in air quality due to the construction and operation of the proposed development and whether these potential changes would significantly alter air quality.
- 11.2 The assessment of dust soiling and human health impacts during the construction phase of the development results in the proposal of dust mitigation measures. The implementation of these will ensure that residual dust impacts during the construction phase are not significant.
- 11.3 Concentrations of NO₂ and PM₁₀ are likely to be below their respective long and short-term objectives at the proposed development site which is therefore considered suitable for student use with regard to air quality. Concentrations of PM_{2.5} are expected to be below the annual mean target.
- 11.4 The proposed development is not expected to have a significant effect on local air quality.
- 11.5 There is, therefore, no reason for this application to be refused on the grounds of air quality.

APPENDICES

Appendix A: Location of site, AQMA and GMCA monitoring



Appendix B: IAQM Dust Risk Assessment Methodology

The following section outlines criteria developed by the IAQM for the assessment of air quality impacts arising from construction and demolition activities¹¹. The assessment procedure is divided into four steps and is summarised below:

Step 1: Screen the Need for a Detailed Assessment

An assessment will normally be required where there are human receptors within 250 m of the site boundary and/or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s). Ecological receptors within 50 m of the site boundary or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the site entrance(s), are also identified at this stage. An ecological receptor refers to any sensitive habitat affected by dust soiling. For locations with a statutory designation, such as a Site of Specific Scientific Interest (SSSI), Special Area of Conservation (SACs) and Special Protection Areas (SPAs), consideration should be given as to whether the particular site is sensitive to dust. Some non-statutory sites may also be considered if appropriate.

Where the need for a more detailed assessment is screened out, it can be concluded that the level of risk is 'negligible' and any effects will not be significant.

Step 2: Assess the Risk of Dust Impacts

In step two, a site is allocated to a risk category on the basis of the scale and nature of the works (Step 2A) and the sensitivity of the area to dust impacts (Step 2B). These two factors are combined in Step 2C to determine the risk of dust impacts before the implementation of mitigation measures. The assigned risk categories may be different for each of the construction activities outlined by the IAQM (construction, demolition, earthworks and trackout). A site can be divided into zones, for example on a large site where there are differing distances to the nearest receptors.

Step 2A: Define the Potential Dust Emission Magnitude

Dust emission magnitude is based on the scale of the anticipated works and is classified as Small, Medium or Large. The IAQM guidance recommends that the dust emission magnitude is determined separately for demolition, earthworks, construction and trackout. **Table B1** describes the potential dust emission class criteria for each outlined activity.

Table B1: Criteria Used in the Determination of Dust Emission Magnitude

Activity	Criteria used to Determine Dust Emission Magnitude		
	Small	Medium	Large
Demolition	Total building volume <12,000 m ³ , construction materials with low potential for dust release.	Total building volume 12,000 m ³ – 75,000 m ³ , potential dusty construction material.	Total building volume >75,000 m ³ , potentially dusty construction material.
Earthworks	Total site area <18,000 m ² , soil type with large grain	Total site area 18,000 – 110,000 m ² , moderately dusty soil type	Total site area >110,000 m ² , potentially dusty soil type
Construction	Total building volume <12,000 m ³ .	Total building volume 12,000 – 75,000 m ³ .	Total building volume >75,000 m ³ .
Trackout	<20 outward HDV trips in any one day. Unpaved road length <50 m.	20–50 outward HDV trips in any one day. Unpaved road length 50–100 m.	>50 outward HDV trips in any one day. Unpaved road length >100 m.

Step 2B: Define the Sensitivity of the Area

The sensitivity of the area takes into account the following factors:

- the specific sensitivities of receptors in the area;
- the proximity and number of receptors;
- the local background PM₁₀ concentration; and
- site-specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of windblown dust.

The criteria detailed in **Table B2** is used to determine the sensitivity of the receptor in relation to dust soiling, health effects and ecological effects.

Table B2: Criteria for Determining Sensitivity of Receptors

Sensitivity of Receptor	Criteria for Determining Sensitivity		
	Dust Soiling Effects	Health Effects of PM ₁₀	Ecological Sites
High	Dwellings, museums and other culturally important collections, medium and long-term car parks and car showrooms	Residential properties, hospitals, schools and residential care homes	International or national designation <i>and</i> the features may be affected by dust soiling; or locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List For Great Britain
Medium	Parks, places of work	Office and shop workers not occupationally exposed to PM ₁₀	Presence of an important plant species where dust sensitivity is uncertain or locations with a national designation with features that may be affected by dust deposition
Low	Playing fields, farmland, footpaths, short-term car parks and roads	Public footpaths, playing fields, parks and shopping streets	Local designation where features may be affected by dust deposition

Table B3 and **Table B4** are then used to define the sensitivity of the area to dust soiling and human health effects. **Table B5** is used to define the sensitivity of the area to ecological impacts. This should be derived for each of construction, demolition, earthworks and trackout.

Table B3: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from Source (m)*			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

*distances considered are to the dust source

Table B4: Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentrations	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	>32 µg/m ³	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	28-32 µg/m ³	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	24-28 µg/m ³	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	<24 µg/m ³	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	>32 µg/m ³	>10	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	28-32 µg/m ³	>10	Medium	Low	Low	Low
		1-10	Low	Low	Low	Low
	24-28 µg/m ³	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	<24 µg/m ³	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low

Table B5: Sensitivity of the Area to Ecological Impacts^{a, b, c}

Receptor Sensitivity	Distance from Source (m) ^c	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

^a The sensitivity of the area should be derived for each of the four activities: demolition, construction, earthworks and trackout and for each designated site. See STEP 2B, Box 8 and Box 9 of IAQM guidance.

^b Only the highest level of area sensitivity from the table needs to be considered.

^c For trackout, the distances should be measured from the side of the roads used by construction traffic. The impact declines with distance from the site.

The sensitivity of the area is then summarised.

Step 2C Define the Risks of Impacts

The dust emission magnitude from **Table B1** and sensitivity of the area and receptors from **Table B2**, **Table B3**, **Table B4** and **Table B5** are combined, and the risk of impacts from each activity (demolition, earthworks, construction and trackout) before mitigation is applied, is determined using the criteria detailed in **Table B6** to **Table B9**.

Table B6: Risk of Dust Impacts – Demolition

Potential Impact Sensitivity of the Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table B7: Risk of Dust Impacts – Earthworks

Potential Sensitivity of the Area	Impact	Dust Emission Magnitude		
		Large	Medium	Small
High		High Risk	Medium Risk	Low Risk
Medium		Medium Risk	Medium Risk	Low Risk
Low		Low Risk	Low Risk	Negligible

Table B8: Risk of Dust Impacts – Construction

Potential Sensitivity of the Area	Impact	Dust Emission Magnitude		
		Large	Medium	Small
High		High Risk	Medium Risk	Low Risk
Medium		Medium Risk	Medium Risk	Low Risk
Low		Low Risk	Low Risk	Negligible

Table B9: Risk of Dust Impacts – Trackout

Potential Sensitivity of the Area	Impact	Dust Emission Magnitude		
		Large	Medium	Small
High		High Risk	Medium Risk	Low Risk
Medium		Medium Risk	Medium Risk	Low Risk
Low		Low Risk	Low Risk	Negligible

Step 3 Determine Site Specific Mitigation

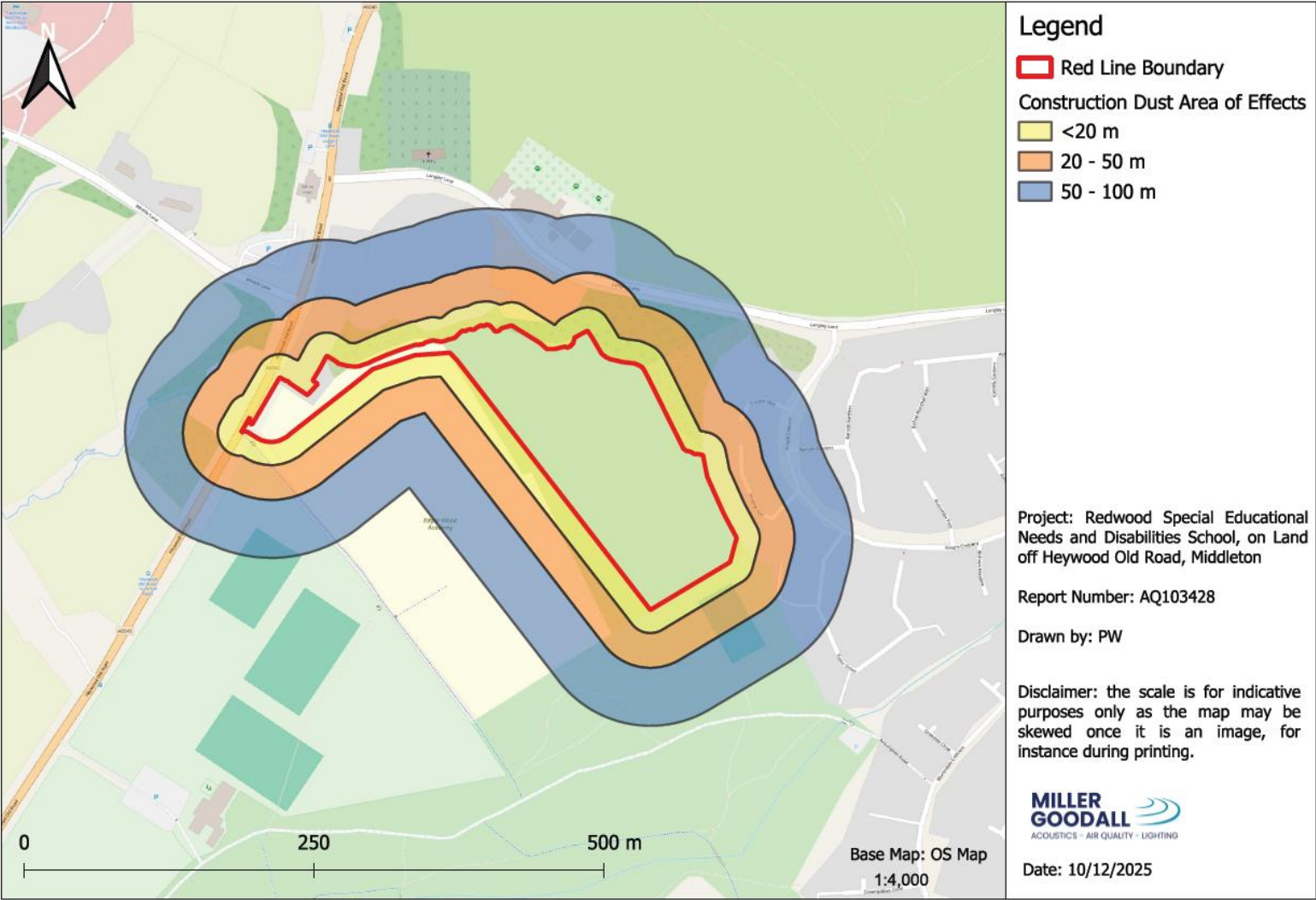
Step three of the IAQM guidance identifies appropriate site-specific mitigation. These measures are related to whether the site is a low, medium or high risk site.

Step 4 Determine Significance of Residual Effects

At step four the significance of residual effects is assessed. For almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'.

There may be cases where, for example, there is inadequate access to water for dust suppression to be effective, and even with other mitigation measures in place there may be a significant effect. Therefore, it is important to consider the specific characteristics of the site and the surrounding area to ensure that a conclusion of no significant effect is robust.

Appendix C: Construction Dust Area of Effects



Appendix D: IAQM Dust Assessment Mitigation

xx Highly Recommended

x Desirable

Measures relevant for earthworks, construction and trackout

Mitigation Measure	Medium Risk
Communications	
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	xx
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.	xx
Display the head or regional office contact information.	xx
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. The DMP may include monitoring of dust deposition, dust flux, realtime PM ₁₀ continuous monitoring and/or visual inspections.	xx
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.	xx
Make the complaints log available to the local authority when asked.	xx
Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.	xx
Monitoring	
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.	x
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	xx
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.	xx

Mitigation Measure	Medium Risk
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.	xx
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.	xx
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	xx
Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.	xx
Avoid site runoff of water or mud.	xx
Keep site fencing, barriers and scaffolding clean using wet methods.	xx
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	xx
Cover, seed or fence stockpiles to prevent wind whipping.	xx
Operating vehicle/machinery and sustainable travel	
Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable.	xx
Ensure all vehicles switch off engines when stationary - no idling vehicles.	xx
Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable.	xx
Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).	x
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).	x
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.	xx

Mitigation Measure	Medium Risk
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	xx
Use enclosed chutes and conveyors and covered skips.	xx
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	xx
Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	xx
Waste management	
Avoid bonfires and burning of waste materials.	xx

Measures specific to earthworks

Mitigation Measure	Medium Risk
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.	x
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.	x
Only remove the cover in small areas during work and not all at once.	x

Measures specific to construction

Mitigation Measure	Medium Risk
Avoid scabbling (roughening of concrete surfaces) if possible.	x
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.	xx

Mitigation Measure	Medium Risk
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.	x
For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.	x

Measures specific to trackout

Mitigation Measure	Medium Risk
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.	xx
Avoid dry sweeping of large areas.	xx
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	xx
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	xx
Record all inspections of haul routes and any subsequent action in a site log book.	xx
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	xx
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	xx
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.	xx
Access gates to be located at least 10 m from receptors where possible.	xx

Glossary of Terms

AADT Annual Average Daily Traffic flow

Air Quality Standard Pollutant standards relate to ambient pollutant concentrations in air, set on the basis of medical and scientific evidence of how each pollutant affects human health and the environment

Air Quality Objective Pollutant Objectives incorporate future dates by which a standard is to be achieved, taking into account economic considerations, practicability and technical feasibility

Annual Mean A mean pollutant concentration value in air which is calculated on a yearly basis, yielding one annual mean per calendar year. In the UK air quality regulations, the annual mean for a particular substance at a particular location for a particular calendar year is:

- (a) in the case of lead, the mean of the daily levels for that year;
- (b) in the case of nitrogen dioxide, the mean of the hourly means for that year;
- (c) in the case of PM₁₀, the mean of the 24-hour means for that year.

Annoyance (Dust) Loss of amenity due to dust deposition or visible dust plumes, often related to people making complaints, but not necessarily sufficient to be a legal nuisance.

AQAP Air Quality Action Plan

AQMA Air Quality Management Area

AQMP Air Quality Management Plan

AQO Air Quality Objective

AQS Air Quality Strategy for England, Scotland, Wales and Northern Ireland

Background Concentrations The term used to describe pollutant concentrations which exist in the ambient atmosphere, excluding local pollution sources such as roads and stacks

Construction Any activity involved with the provision of a new structure (or structures), its modification or refurbishment. A structure will include a residential dwelling, office building, retail outlet, road, etc.

Construction Impact Assessment An assessment of the impacts of demolition, earthworks, construction and trackout. In this Guidance, specifically the air quality impacts.

Defra Department for Environment, Food and Rural Affairs

Demolition Any activity involved with the removal of an existing structure (or structures). This may also be referred to as de-construction, specifically when a building is to be removed a small part at a time.

Deposited Dust that is no longer in the air and which has settled onto a surface. Deposited dust is also sometimes called amenity dust or nuisance dust, with the term nuisance applied in the general sense rather than the specific legal definition.

DMP Dust Management Plan; a document that describes the site-specific methods to be used to control dust emissions.

Dust Solid particles that are suspended in air, or have settled out onto a surface after having been suspended in air. The terms dust and particulate matter (PM) are often used interchangeably, although in some contexts one term tends to be used in preference to the other. In this guidance the term 'dust' has been used to include the particles that give rise to soiling, and to other human health and ecological effects. Note: this is different to the definition given in BS 6069, where dust refers to particles up to 75 µm in diameter.

Earthworks Covers the processes of soil-stripping, ground-levelling, excavation and landscaping.

Effects The consequences of the changes in airborne concentration and/or dust deposition for a receptor. These might manifest as annoyance due to soiling, increased morbidity or mortality due to exposure to PM₁₀ or PM_{2.5} or plant dieback due to reduced photosynthesis. The term 'significant effect' has a specific meaning in EIA regulations. The opposite is an insignificant effect. In the context of construction impacts any effect will usually be adverse, however, professional judgement is required to determine whether this adverse effect is significant based in the evidence presented.

EPUK Environmental Protection UK

HDV Heavy Duty Vehicle

IAQM Institute of Air Quality Management

Impacts The changes in airborne concentrations and/or dust deposition. A scheme can have an 'impact' on airborne dust without having any 'effects', for instance if there are no receptors to experience the impact.

LAQM Local Air Quality Management

LDV Light Duty Vehicle

Mg/m³ Microgrammes (of pollutant) per cubic metre of air. A measure of concentration in terms of mass per unit volume. A concentration of 1 µg/m³ means that one cubic metre of air contains one microgramme (millionth of a gramme) of pollutant

NO₂ Nitrogen Dioxide

NO_x A collective term used to represent the mixture of nitrogen oxides in the atmosphere, as nitric oxide (NO) and nitrogen dioxide (NO₂)

NPPF National Planning Policy Framework

Nuisance The term nuisance dust is often used in a general sense when describing amenity dust. However, this term also has specific meanings in environmental law:

Statutory nuisance, as defined in S79(1) of the Environmental Protection Act 1990 (as amended from time to time).

Private nuisance, arising from substantial interference with a person's enjoyment and use of his land.

Public nuisance, arising from an act or omission that obstructs, damages or inconveniences the right of the community.

Each of these applying in so far as the nuisance relates to the unacceptable effects of emissions. It is recognised that a significant loss of amenity may occur at lower levels of emission than would constitute a statutory nuisance.

Note: as nuisance has a specific meaning in environmental law, and to avoid confusion, it is recommended that the term is not used in a more general sense.

PM_{2.5} The fraction of particles with a mean aerodynamic diameter equal to, or less than, 2.5 µm. More strictly, particulate matter which passes through a size selective inlet as defined in the reference method for the sampling and measurement of PM_{2.5}, EN 14907, with a 50% efficiency cut-off at 2.5 µm aerodynamic diameter

PM₁₀ The fraction of particles with a mean aerodynamic diameter equal to, or less than, 10 µm. More strictly, particulate matter which passes through a size selective inlet as defined in the reference method for the sampling and measurement of PM₁₀, EN 12341, with a 50% efficiency cut-off at 10 µm aerodynamic diameter

Running Annual Mean A mean pollutant concentration value in air which is calculated on an hourly basis, yielding one running annual mean per hour. The running annual mean for a particular substance at a particular location for a particular hour is the mean of the hourly levels for that substance at that location for that hour and the preceding 8759 hours

Trackout The transport of dust and dirt from the construction/demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy duty vehicles (HDVs) leave the construction/demolition site with dusty materials, which may then spill onto the road, and/or when HDVs transfer dust and dirt onto the road having travelled over muddy ground on site.

