

**Air Quality Environmental Impact Assessment
Environmental Statement Volume 1 Appendix 8.2 - Supporting
Information**

Land North of Birch Business Park



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1.0 INTRODUCTION

1.1.1 This Technical Appendix provides the supporting information used to inform the assessment. This is provided in the following Sections:

- Legislation; and,
- Baseline.

1.1.2 These should be read in conjunction with the Air Quality Chapter of the Environmental Statement and the other Technical Appendices.

2.0 LEGISLATION

2.1 Air Quality

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

- Nitrogen dioxide (NO₂);
- Sulphur dioxide;
- Lead;
- Particulate matter with an aerodynamic diameter of less than 10µm (PM₁₀);
- Particulate matter with an aerodynamic diameter of less than 2.5µm (PM_{2.5});
- Benzene; and,
- Carbon monoxide.

2.1.2 Air Quality Target Values were also provided for several additional pollutants. It should be noted that the AQLV for PM_{2.5} stated in the Air Quality Standards Regulations (2010) was amended in the Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020)¹.

2.1.3 The Air Quality Strategy (AQS) was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published on 28th April 2023². The document contains standards, objectives and measures for improving ambient air quality, including a number of Air Quality Objectives (AQOs). These are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedences over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

2.1.4 The Environmental Improvement Plan 2025³ was published in December 2025, providing long term and Interim Targets in order to reduce population exposure to PM_{2.5}. The Concentration Target for 2040 was adopted in the Environmental Targets (Fine Particulate Matter) (England) Regulations (2023).

¹ The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020, UK Government, 2020.

² AQS: Framework for Local Authority Delivery, DEFRA, 2023.

³ Environmental Improvement Plan 2025, DEFRA, 2025.

2.1.5 Table A8.2.1 presents the AQOs, Interim Target and Concentration Target for pollutants considered within this assessment.

Table A8.2.1 Air Quality Objectives/ Interim Target/ Concentration Target

Pollutant	Air Quality Objective/ Interim Target/ Concentration Target	
	Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Period
NO ₂	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM ₁₀	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
PM _{2.5}	10 ^(a)	Annual mean
	10 ^(b)	Annual mean

Note: (a) Interim Target to be achieved by 2030.

(b) Concentration Target to be achieved by end of 2040.

2.1.6 Table A8.2.2 summarises the advice provided in DEFRA guidance⁴ on where the AQOs for pollutants considered within this report apply.

Table A8.2.2 Examples of Where the Air Quality Objectives Apply

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

⁴ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
24-hour mean	All locations where the annual mean objective would apply, together with hotels Gardens of residential properties	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets) Those parts of car parks, bus stations and railway stations etc which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer	Kerbside sites where the public would not be expected to have regular access

2.2 **Dust**

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

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

2.2.2 Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the Local Authority (LA) is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act. The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practicable means.

3.0 BASELINE

3.1 Introduction

- 3.1.1 Existing air quality conditions in the vicinity of the Site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

3.2 Local Air Quality Management

- 3.2.1 Rochdale Metropolitan Borough Council (RMBC) has undertaken Review and Assessment of air quality within its area of jurisdiction. This process has indicated that annual mean concentrations of NO₂ are above the AQOs within RMBC's administrative extents. As such, a number of roads within Rochdale have been included within the Greater Manchester Combined Authority (GMCA) AQMA, which is described as follows:

"This is the part of the GMCA AQMA located within the Rochdale Council area."

- 3.2.2 The Proposed Development is located approximately 650m north of the AQMA. As such, there is the potential for vehicles travelling to and from the site to increase pollution levels in this sensitive area. This has been considered throughout the assessment.

- 3.2.3 The Proposed Development is also located adjacent to Bury Council's (BC's) administrative extents. BC has also undertaken Review and Assessment of air quality within its area of jurisdiction. This process has indicated that annual mean concentrations of NO₂ are above the AQOs within BC's administrative extents. As such, a number of roads within Rochdale have been included within the GMCA AQMA, which is described as follows:

"This is the part of the GMCA AQMA located within the Bury Council area."

- 3.2.4 The development is located approximately 1.3km north-east of the AQMA. As such, there is the potential for vehicles travelling to and from the site to increase pollution levels in this sensitive area. This has been considered throughout the assessment.

3.2.5 RMBC and BC have concluded that concentrations of all other pollutants considered within the Air Quality Strategy are currently below the relevant AQOs. As such, no further AQMAs have been designated.

3.3 Local Authority Air Quality Monitoring

3.3.1 Monitoring of pollutant levels is undertaken by RMBC and BC throughout their areas of jurisdiction. Data has also been collected by the GMCA to inform the Clean Air Plan (CAP). Recent annual mean NO₂ concentrations recorded in the vicinity of the development, as provided in the 'Greater Manchester LAQM and CAP NO₂ Diffusion Tube Results 2011-2024'⁵ Spreadsheet, are shown in Table A8.2.3. Exceedences of the AQO are shown in **bold**.

Table A8.2.3 Monitoring Results - NO₂

Monitoring Site		Monitored NO ₂ Concentration (µg/m ³)		
		2022	2023	2024
BURW	Bury Whitefield	21	19.6	18.6
RO4ANO	Middleton Library	22.7	23.0	20.3
RO6ANO	Heywood Old Road Birch	34.7	28.9	24.3
RO20ANO	Manchester Road / Bader Drive	24.3	29.6	30.2
RO21ANO	York Street, Heywood	27.7	26.1	26.3
BU1NO	BU1 Baguley Crescent	26.6	24.6	21.9
BU4NO	Hardmans Road Whitefield	31.8	29.1	27.4
BU5NO	BU5 Radcliffe New Road. Whitefield	21.0	19.6	17.6
BU7NO	Ferngrove	25.9	24.1	21.5
BU11NO	Moorgate	34.7	31.4	27.7
BU12NO	Rochdale Road	38.7	38.7	36.4
BU13NO	Rochdale Road	36.9	35	34

⁵ Greater Manchester LAQM and CAP NO₂ Diffusion Tube Results 2011-2024, GMCA, 2025.

Monitoring Site		Monitored NO ₂ Concentration (µg/m ³)		
		2022	2023	2024
BU14NO	Angouleme Way	30.7	29.6	25.8
BU15NO	Bury New Road/Bury Old Road	40.5	36.8	33.4
BU16NO	Bury New Road	39.0	34.8	31.7
BU18NO	Prestwich Centre	28.6	26.8	24.3
BU19NO	Rochdale Old Road	30.3	30.2	25.7
CAP_BURY_002	A56 (Bury New Road)	35.8	33.9	31.0
CAP_BURY_004	A56 (Bury New Road)	45.2	42.8	37.8
CAP_BURY_005	A58 (Rochdale Road)	32.4	31.9	32.9
CAP_BURY_006	A576 (Middleton Road)	46.2	44.3	38.0
CAP_BURY_008	A576 (Middleton Road)	29.4	29.1	26.7
CAP_BURY_009	A58 (Rochdale Road)	36.1	35.8	33.7
CAP_BURY_010	A58 (Bury New Road)	30.6	30.0	29.2
CAP_BURY_011	A56 (Bury New Road)	42.7	40.7	39.7
CAP_BURY_027	A56	42.4	39.9	36.0
CAP_BURY_028	Rochdale Road	40.0	38.0	37.5
CAP_BURY_029	Walsh Lane	40.8	39.9	36.6
CAP_BURY_030	Walsh Lane	37.9	34.7	32.6
CAP_BURY_031	Walsh Lane	37.7	34.2	33.9
CAP_BURY_033	A58	40.8	40.0	38.2
CAP_BURY_034	A58	39.3	33.7	36.8

3.3.2 As shown in Table A8.2.3 **annual** mean NO₂ concentrations were above the AQO of 40µg/m³ at the following positions in recent years:

- BU15NO - Bury New Road/Bury Old Road;
- CAP_BURY_004 - A56 (Bury New Road);
- CAP_BURY_006 - A576 (Middleton Road);
- CAP_BURY_011 - A56 (Bury New Road);

- CAP_BURY_027- A57;
- CAP_BURY_028 - Rochdale Road;
- CAP_BURY_029 - Walsh Lane; and,
- CAP_BURY_033 - A58.

3.3.3 The above monitors are positioned adjacent to roads within an AQMA. Elevated pollutant concentrations would therefore be expected. Annual mean NO₂ concentrations were below the AQO at all remaining survey positions during recent years.

3.3.1 Recent annual mean PM₁₀ concentrations recorded in the vicinity of the Site are shown in Table A8.2.4

Table A8.2.4 Monitoring Results - PM₁₀

Monitoring Site		Monitored PM ₁₀ Concentration (µg/m ³)		
		2022	2023	2024
BURW	Bury Whitefield	16	14.0	13.1

3.3.2 As shown in Table A8.2.4, annual mean PM₁₀ concentrations were below the AQO of 40µg/m³ at the BURW - Bury Whitefield monitor in recent years.

3.3.3 Reference should be made to Figure 8.2 in Chapter 8 – Air Quality for a map of the monitoring locations.

3.3.4 BC and RMBC do not undertake monitoring of PM_{2.5} concentrations within the vicinity of the Site.

3.4 Background Pollutant Concentrations

3.4.1 Predictions of background pollutant concentrations on a 1km by 1km grid basis have been produced by DEFRA for the entire of the UK to assist LAs in their Review and Assessment of air quality. The Proposed Development is located within grid square National Grid Reference (NGR): 384500, 408500. Data for this location was downloaded

from the DEFRA website⁶ for the purpose of the assessment. This included data for the following scenarios:

- 2024 - Verification year;
- 2026 - Present year;
- 2027 - Core scenario (opening year); and,
- 2032 - Bus gate scenario.

3.4.2 The data is summarised in Table A8.2.5.

Table A8.2.5 Background Pollutant Concentration Predictions

Pollutant	Predicted Background Pollutant Concentration (µg/m ³)			
	2024	2026	2027	2032
NO ₂	11.81	10.87	10.43	8.46
PM ₁₀	12.74	12.65	12.60	12.38
PM _{2.5}	6.73	6.64	6.59	6.37

3.4.3 As shown in Table A8.2.5, predicted NO₂, PM₁₀ and PM_{2.5} background concentrations are below the relevant AQOs and Concentration Target at the Site.

⁶ <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>.

4.0 **ABBREVIATIONS**

AQLV	Air Quality Limit Value
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Strategy
BC	Bury Council
DEFRA	Department for Environment, Food and Rural Affairs
IAQM	Institute of Air Quality Management
LA	Local Authority
LAQM	Local Air Quality Management
NGR	National Grid Reference
NO ₂	Nitrogen dioxide
PM ₁₀	Particulate matter with an aerodynamic diameter of less than 10µm
PM _{2.5}	Particulate matter with an aerodynamic diameter of less than 2.5µm
RMBC	Rochdale Metropolitan Borough Council