



Dust Risk Assessment

Great Jackson Street Concrete Batching Plant

Renaker Build Limited

MAN.779.005.AQ.R.002.P02



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Great Jackson Street Concrete Batching Plant – Dust Risk Assessment

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Non-Technical Summary

- i. Enzygo Limited was commissioned by Renaker Build Limited to undertake a dust assessment to support the submission of a Planning Application for the continued temporary use of a concrete batching plant located on the former 3M site on Great Jackson Street, Manchester.
- ii. Activities from the facility have potential to cause dust impacts at existing and proposed new sensitive locations within the vicinity of the site. As such, a qualitative assessment was undertaken to assess the significance of these impacts. The assessment was undertaken in line with industry standard guidance and applies a source-pathway-receiver approach to determine the overall significance of impacts.
- iii. In addition, consideration was given to interim fine particle guidance for future concentration targets. The proposals were not considered to have an impact on future fine particle concentrations.
- iv. The residual magnitude of dust emissions taking into consideration control measures associated with the existing and proposed depositing, storage and processing, of materials on the site was determined.
- v. The pathway from the emission sources to sensitive locations was determined by analysing meteorological data and distances from the site.
- vi. The dust assessments showed batching operation impacts were predicted to be slight adverse and negligible at sensitive locations. This is reliant on the effective dust control measures being implemented throughout the lifetime of the development.
- vii. It recommended that all good practice dust and control measures on the site are maintained.
- viii. All resulting dust impacts from the facility were therefore assessed as not significant.

1.0 Introduction

1.1 Background

1.1.1 Enzygo Limited was commissioned by Renaker Build Limited to undertake a dust assessment to support the submission of a Planning Application for the continued temporary use of a concrete batching plant and ancillary development, as originally approved under application ref. 113767/FO/2016 (as amended by application ref: 114702/NMC/2016 and most recently on 30 November 2020 under the app ref. 128203/FO/2020) located on the former 3M site on Great Jackson Street, Manchester. Herein referred to as the 'facility'.

1.1.2 The proposed development is for:

"Continued temporary use of a concrete batching plant for the manufacture and distribution of ready mixed concrete, ancillary welfare and administrative facilities and associated works, as approved under application ref 128203/FO/2020."

1.1.3 Since the original planning permission had been granted the continued large-scale redevelopment of the wider area has provided additional sensitive receptors in the vicinity of the site.

1.1.4 A dust risk assessment has been carried out to assess the potential impact on amenity at existing and proposed nearby sensitive locations.

1.1.5 The concrete batching plant is operated by Heidelberg Materials UK and comprises the following elements:

- A temporary lab structure for testing concrete produced on site;
- 4 x 24 tonne aggregate storage bins with weigh conveyor;
- An inclined conveyor connecting the aggregate storage bins to the batch tower;
- An enclosed mixer and batcher within a plastisol coated steel frame batching tower;
- A batch cabin;
- A lab;
- 2 x 100 tonne cement silos;
- An external concrete reclaimer, for the collection and recycling of returned concrete loads;
- An external grey water recycling system and 2 water storage tanks;
- An external clean water storage tank;
- 3 x ground stocking bays for aggregate storage (gravel, sand and crushed stone);
- A single storey steel container, containing welfare facilities;
- 11 x 5,000 litre double skin plastic tanks for admixtures and red diesel; and
- 29 car parking spaces.

1.1.6 The facility will provide concrete for the ongoing local developments namely:

- Plot F1, New Jackson –completes Dec 2026;
- Plot F2, New Jackson - completes Aug 2027;
- Phase 3, New Jackson commences Mar 2026, completes Dec 2031;
- Parkside, Greengate – commences June 2025, completes June 2028;
- Tower C1, Trinity Islands – commences Mar 2026, completes Apr 2029; and
- Tower C2, Trinity Islands – commences Nov 2026, completes Nov 2029.

1.1.7 A qualitative risk assessment has been undertaken to assess the significance of existing and potential impacts in line with the requirements of the National Planning Policy Framework (NPPF) and in line with Institute of Air Quality Management (IAQM) methodology¹.

1.2 Site Location and Context

1.2.1 The application site is located at the approximate National Grid Reference (NGR): 383290, 397220 within an area of large scale high-rise residential development.

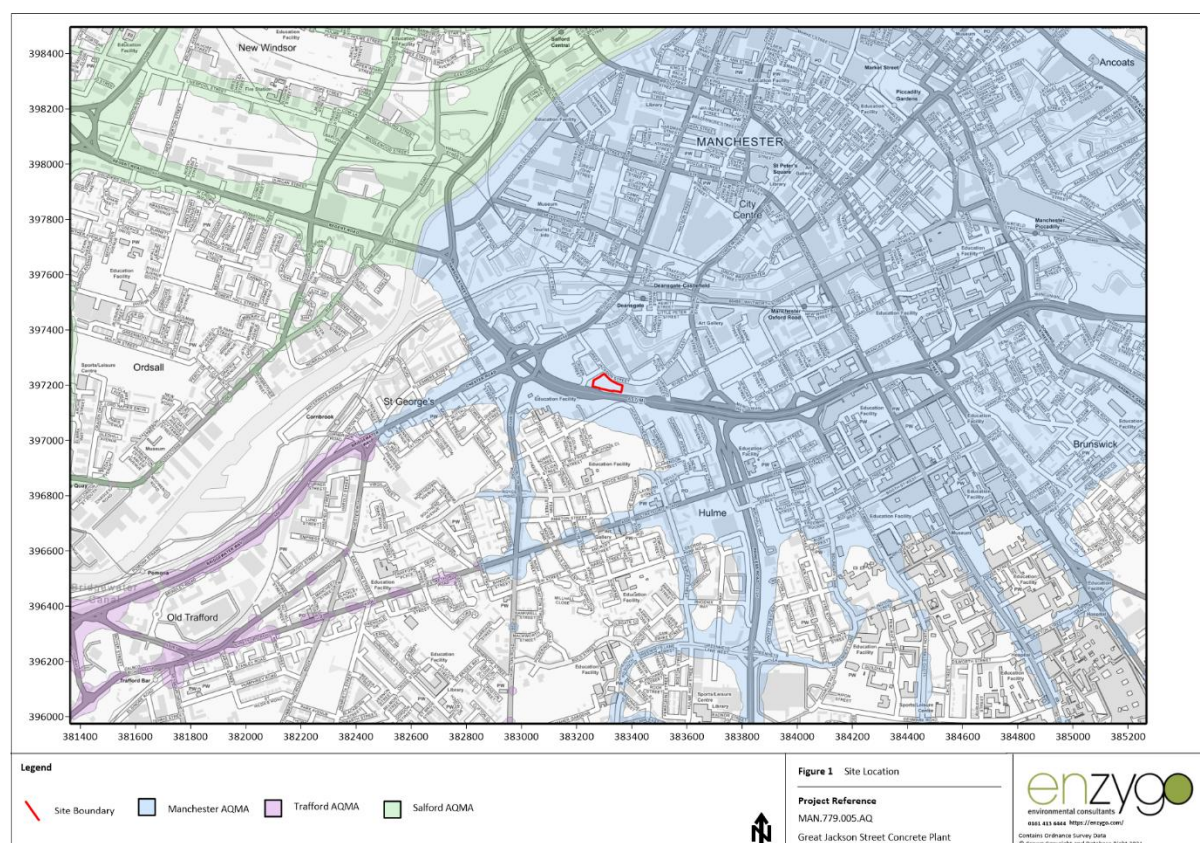
1.2.2 The site is 0.37 ha and is bound by the Mancunian Way to the south, Melbourne Street to the west, and Great Jackson Street to the north. The Site is less than 150 metres away from the Crown Street Phase 1 and Crown Street Phase 2 sites which obtained consent for residential-led development in July 2018 and August 2020 respectively.

1.2.3 The site lies within the Greater Manchester Air Quality Management Areas (AQMAs) declared for exceedances of the annual mean nitrogen dioxide concentration. There are no AQMAs declared for particulate matter concentrations.

1.2.4 Figure 1 shows the site location and surrounding context.

¹ Guidance on the Assessment of Mineral Dust Impacts for Planning, IAQM, 2016

Figure 1: Site Location



1.3 Limitations

- 1.3.1 This report has been produced in accordance with Enzygo's standard terms of engagement. Enzygo has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Enzygo; a charge may be levied against such approval.

2.0 Legislation Guidance and Policy

2.1 Scope

2.1.1 The following legislation, guidance and policy text will be considered and where necessary adhered to during the preparation of the assessment:

- The Environmental Protection Act 1990 (1990);
- Environmental Permitting (England and Wales) Regulations, 2016;
- The National Planning Policy Framework (NPPF), updated 12 December 2024;
- The National Planning Practice Guidance (NPPG), relevant chapters produced on 1 November 2019; and
- Guidance on the Assessment of Mineral Dust Impacts for Planning, IAQM¹.

2.2 Legislation

Environmental Protection Act

2.2.1 The main objective of the Environmental Protection Act (1990) is to make provision for the improved control of pollution to the air, water, and land by regulating waste management and the control of emissions arising from specific industrial and other processes. The act consists of nine parts of which Part III 'Statutory Nuisances and Clean Air' is relevant to the assessment. Part III defines statutory nuisances and sets out procedures for dealing with them. With respect to dust and odour Section 79 of the Act constitutes a statutory nuisance as:

- (a) any premises in such a state as to be prejudicial to health or a nuisance;*
- (c) fumes or gases emitted from premises so as to be prejudicial to health or a nuisance*
- (d) any dust, steam, smell, or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance [...]; and*
- (e) any accumulation or deposit which is prejudicial to health or a nuisance.*

2.2.2 It is the duty of the Local Planning Authority (LPA) to inspect their area of authority to investigate statutory nuisances and where a complaint of a statutory nuisance is made take necessary steps to investigate. Where an LPA is satisfied that a statutory nuisance exists, or is likely to occur or reoccur, they shall serve an abatement notice imposing all or any of the following requirements:

- (a) requiring the abatement of the nuisance or prohibiting or restricting its occurrence or recurrence;*
- (b) requiring the execution of such works, and the taking of such other steps, as may be necessary for any of those purposes.*

2.2.3 The purpose of the notice is to persuade the appropriate person to abate the nuisance or prohibit or restrict its occurrence or recurrence. Evidence must be shown that the process to which the nuisance has been attributed are being controlled according to best practice measures.

Environmental Permitting (England and Wales) Regulations

- 2.2.4 Permitted activities with respect to odour are controlled under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments (EU Exit) Regulations 2018. The regulations ensure that activities are free from emission concentrations that are likely to cause adverse impacts outside the boundary. Measures to control emission releases are in most cases secure via an appropriate condition in the site's environmental permit.
- 2.2.5 In situations where it is not practical to prevent releases the operator must employ appropriate measures, typically secured in a dust or odour management plan, to reduce fugitive emission impacts as far as practicably possible.
- 2.2.6 Enforcement of conditions are under the control of relevant regulators, either the EA for Part A(1) processes, or the Local Authority for Part (A2) and B processes. If the regulator is satisfied that emissions arising from a facility is causing pollution beyond the site boundary, then they can serve an improvement notice that requires remedial works to be undertaken to reduce impacts to acceptable levels. Should appropriate actions not prove sufficient the regulator has authority to cease all activities on site.

Environment Act

- 2.2.7 Part IV of the Environment Act (1995) requires UK government to produce a national Air Quality Strategy (AQS) which contains standards, objectives, and measures for improving ambient air quality. The most recent AQS was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published in July 2007. The AQS sets out Air Quality Objectives (AQOs) that are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedances over a specified timescale. The annual and hourly AQOs set out dust in Table 1. There are currently no statutory standards or objectives relating to the releases or impact of odours.

Table 1: Air Quality Objectives

Pollutant	Air Quality Objectives	
	Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Periods
Particulate Matter (PM) with an aerodynamic diameter of less than $10\text{ }\mu\text{m}$ (PM_{10})	40	Annual mean
	50	24-hour mean; not to be exceeded more than 35 times a year
Particulate matter with an aerodynamic diameter of less than $2.5\text{ }\mu\text{m}$ ($\text{PM}_{2.5}$)	20	Annual mean

- 2.2.8 The Environment Act (2021) amends the previous Environment Act 1995 to strengthen the local air quality management (LAQM) framework, it also requires the Secretary of State for DEFRA to set new long-term legally binding targets on air quality by reviewing its National Air Quality Strategy every five years.

The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

- 2.2.9 The regulations² set two new targets for fine particulate matter ($\text{PM}_{2.5}$):
- A maximum annual mean concentration target of $10\text{ }\mu\text{g}/\text{m}^3$ to be achieved by 2040; and

² <https://www.legislation.gov.uk/uksi/2023/96/contents/made>, DEFRA

- A population exposure reduction target of 35% compared to 2018 to be achieved by 2040.
- 2.2.10 Defra is developing guidance for applicants and Planning Authorities in England to demonstrate that they have appropriately considered the PM_{2.5} targets when making planning applications and planning decisions.
- 2.2.11 Interim guidance requires that pending publication of the new guidance, applicants are advised to provide evidence in their planning applications that they have identified key sources of air pollution within their schemes and taken appropriate action to minimise emissions of PM_{2.5} and its precursors as far as is reasonably practicable.
- 2.2.12 The guidance advises that the following is considered in relation to PM_{2.5} exposure:
- Site proximity to people (particularly large populations and/or vulnerable groups, e.g. schools, hospitals, care homes, areas of deprivation) and the impact of the development on these;
 - Site proximity to pollution sources and the impact of these on users of the development; and
 - Exposure and emissions during both construction and in-use.
- 2.2.13 It also advises to explain why mitigations have been implemented.

2.3 Planning Policy

National Planning Policy Framework

- 2.3.1 The NPPF sets out the Government's core policies and principles with respect to land use planning, including air quality. The document sets out a key environmental objective which is focused on protecting and enhancing natural environment by using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy. It also prevents both new and existing development from contributing to or being put at adverse risk from unacceptable levels of air pollution. It stresses the importance of sustainability and achieving compliance with relevant limit values or national objectives for pollutants, as well as the implementation of effective mitigation to offset development generated impacts.
- 2.3.2 Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. Paragraph 187 states that:
- “Planning policies and decisions should contribute to and enhance the natural and local environment by:*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality”.*
- 2.3.3 To achieve the key environmental objective paragraph 198 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”.*
- 2.3.4 Paragraph 199 with specific regards to air quality 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 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”.

2.3.5 To summarise, paragraph 201 states:

“The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities”.

2.4 Local Planning Policy

The Manchester Local Plan

2.4.1 The Manchester Local Plan comprises a number of documents which set out MCC's spatial policy framework, of which the Core Strategy is the key document. The Core Strategy was formally adopted in 2012 and provides a framework for development within the city up until 2027. A review of the Core Strategy identified the following policy related to air quality.

Policy DM1: Development Management

“All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:

Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation. This could also include proposals which would be sensitive to existing environmental conditions, such as noise”

Places for Everyone

2.4.2 Places for Everyone is a long-term plan for jobs, new homes, and sustainable growth prepared by the Greater Manchester Combined Authority (GMCA). The plan was adopted by MCC on 20 March 2024. A review of the plan identified the following policy related to air quality.

Policy JP-S5: Clean Air

“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.

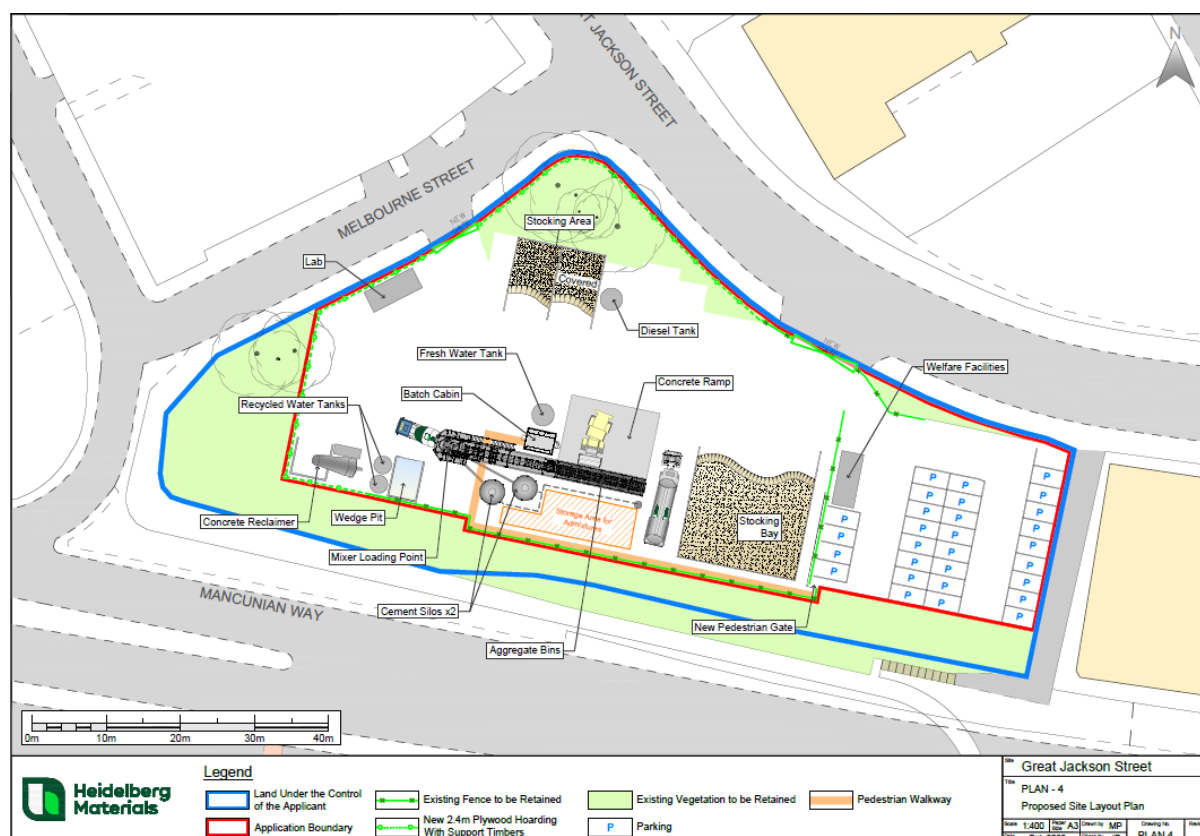
2.4.3 Reference was made to these policies during the undertaking of the Chapter by assessing effects on amenity and the impacts of construction dust and road vehicle exhaust emissions on nearby existing sensitive locations within the Greater Manchester Authority AQMA.

3.0 Methodology

3.1 Concrete Batching Operations

- 3.1.1 Ready mixed concrete is manufactured by mixing, in carefully controlled proportions cement, coarse and fine aggregate (gravel, crushed stone or sand) and water. Small amounts of admixtures may also be included to modify the properties of the concrete, for example to produce high strength concrete.
- 3.1.2 Aggregates are delivered to the storage bays on the site prior to being deposited into the batching process feeding hoppers.
- 3.1.3 The batching process involves feeding raw materials into a mixer, where they are blended with water. Admixtures may be added, if necessary, to give the concrete specific qualities such as greater strength. The mixer is located inside the upper section of the batching tower. Once blended, the concrete is discharged into the drum of the truck mixer waiting below.
- 3.1.4 The above operation is known as a wet process because the water is added to and mixed with the raw materials in the mixer, whereas in the “dry” process water is added and mixed in the truck mixer drum itself.
- 3.1.5 Concrete will be delivered by road, typically in concrete mixer trucks with an 8 m³ capacity. Truck mixers will use the Melbourne Street access to enter an exit the site.
- 3.1.6 The Transport Statement provided by SK Transport for the continued use of the Plant confirmed that that the total level of traffic generated will remain the same and that there will be a reduction in traffic flows on the external highway network. A such no additional NO₂ or PM road sourced emissions are associated with the proposals.

Figure 2: Site Layout



Assessment Approach

- 3.1.7 The IAQM guidance¹ deals specifically with assessing dust impacts for planning purposes, namely potential effects on amenity. Whilst specifically aimed at the minerals extraction sector, site activities such as depositing, storage, transport and processing of materials can present a similar dust source potential and share many dust control techniques. In addition it provides a source, pathway, receiver approach which was deemed appropriate for this assessment.
- 3.1.8 Operations, such as stockpiling, transportation, and material handling, at the facility may result in dust impacts at existing sensitive receptors. There are several of tools available for the assessment of dust effects.
- 3.1.9 In this case, based on an understanding of the key issues, the background to the project, previous planning applications and the nature of the proposals, a qualitative based assessment was completed incorporating the assessment stages as described in Table 1.

Table 1: Dust Assessment Stages

Stage	Description of Main Activities
Review of Wind Data	Wind data was obtained for the Manchester Airport meteorological station. This was reviewed in the context of the relative positioning of the Development and the surrounding area
Dust Risk Assessment	A dust assessment has been completed based on the IAQM guidance ¹

- 3.1.10 The potential for impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.
- 3.1.11 The assessment of potential fugitive dust emission impacts has been undertaken using the following approach:
- Establish baseline conditions of the existing dust climate around the site;
 - Identify activities that could lead to dust emissions without mitigation;
 - Identify site parameters which may increase potential impacts from dust; and
 - Recommend mitigation measures, including modification of site design.
- 3.1.12 To allow for a comparison between the existing operations and those proposed impacts have been assessed for both scenarios. The assessment steps are outlined below.

Suspended Dust

- 3.1.13 Exposure to elevated concentrations of suspended dust particles in the air, referred to as particulate matter with an aerodynamic diameter of less than 10 µm or 2.5 µm (PM₁₀ and PM_{2.5}), has potential to cause impacts on human health. The IAQM guidance¹ recommends the following methodology for assessing the impact of suspended dust on human health.

Screening Criteria

- 3.1.14 The IAQM guidance¹ states that if the background PM₁₀ concentration is below 17 µg/m³, then the impacts of suspended dust on human health can be screened out and no further assessment is required.

Deposited Dust

- 3.1.15 Deposited dust as a result of fugitive dust emissions from the facility also has potential to cause impacts at sensitive receptors in the vicinity of the site. Vehicle movements both on site and on the local road network may result in the re-suspension of dust from haul roads and highway surfaces which may also result in impacts to amenity.
- 3.1.16 The assessment of potential fugitive dust emission impacts has been undertaken based on a Source-Pathway-Receiver (SPR) approach, as outlined within the IAQM guidance¹ and detailed in the following sections.

Step 1: Describe Site Characteristics and Baseline Conditions

- 3.1.17 Description of the proposals and the characteristics of the site and the surrounding area, based on the following considerations:
- Existing sources of dust in the vicinity of the site;
 - Background PM₁₀ concentrations;
 - The location and nature of dust sensitive receptors;
 - The location of likely sources of dust emissions;
 - Any natural or existing mitigating features such as topography and areas of vegetative screening; and
 - Local meteorological data.
- 3.1.18 The impact risk was determined based on the above considerations.

Step 2: Estimate Dust Impact Risk

- 3.1.19 The estimated dust impact risk was based on a combination of the residual source emissions and the pathway effectiveness.

Residual Source Emissions

- 3.1.20 The IAQM guidance¹ refers to three categories of residual source emission magnitude: large, medium, and small. The determination of the emissions magnitude of a source is based on the following types of dust-generating activities, as these are likely to have the greatest potential for dust emissions although not all are applicable to the site:
- Site preparation/restoration (including soil and overburden handling);
 - Mineral extraction (including blasting);
 - Materials handling (e.g. loading onto haul trucks or conveyors);
 - On-site transportation (haul roads);
 - Mineral processing (e.g. crushing and screening);
 - Stockpiling/exposed surfaces; and
 - Off-site transportation (e.g. leading to trackout onto external road network).
- 3.1.21 The residual source emission magnitude categories for each activity were derived from the methodology described in the IAQM guidance¹ as detailed in Table 2.

Table 2: Residual Source Emission Magnitude

Residual Source Emission Magnitude	Suggested Definition
Large	<p>Site Preparation/Restoration: Working area >10ha, bunds >8m in height, >100,000m³ of material movement, >10 heavy plants simultaneously active, bunds un-seeded, fine grained and friable material used on-site</p> <p>Mineral Extraction: Working area >100 ha, drilling and blasting frequently used, dusty mineral of small particle size and/or low moisture content used on-site, 1,000,000 tonnes per annum (tpa) extraction rate</p> <p>Materials Handling: >10 loading plants within 50m of the site boundary, the transfer of material of a high dust potential and/or low moisture content on dry, poorly surfaced ground</p> <p>On-site Transportation: >250 movements in any one day on unpaved surfaces of potentially dusty material</p> <p>Mineral Processing: Mobile crusher and screener with concrete batching plant used on-site, processing >1,000,000tpa of material with a high dust potential and/or low moisture content e.g. hard rock</p> <p>Stockpiles and Exposed Surfaces: Total exposed area >10ha in an area of high wind speeds located <50m of the site boundary, daily transfer of material with a high dust potential and/or low moisture content, stockpile duration >12 months and quarry production >1,000,000tpa</p> <p>Off-site Transportation: >200 total Heavy duty vehicle (HDV) movements in any one day on unsurfaced site access road >50m in length with no HDV cleaning facilities, no road sweeper available</p>
Medium	<p>Site Preparation/Restoration: Working area between 2.5 and 10ha, bunds between 4 and 8 m in height, between 20,000 and 100,000m³ of material movement, between 5 to 10 heavy plants simultaneously active, most bunds seeded, material with a medium moisture content used on-site</p> <p>Mineral Extraction: Working area between 20 and 100ha, drilling and blasting not frequently used, dusty mineral of larger particle size and/or medium moisture content used on-site, between 200,000 and 1,000,000tpa extraction rate</p> <p>Materials Handling: Between 5 to 10 loading plants from 50 to 100m of the site boundary, transferring material of a medium dust potential and/or medium moisture content on semi-dry ground</p> <p>On-site Transportation: Between 100 and 250 movements in any one day on unpaved surfaces of low dust potential, <500m in length</p> <p>Mineral Processing: Fixed screening plant with concrete batching plant on-site, processing between 200,000 to 1,000,000tpa of material with a medium dust potential and/or medium moisture content e.g. semi-dry sand and gravel</p> <p>Stockpiles and Exposed Surfaces: Total exposed area between 2.5 and 10ha in an area of medium wind speeds located between 50 and 100m of the site boundary, daily transfer of material with a medium dust potential and/or medium moisture content, stockpile duration between 1 and 12 months and Site remediation between 200,000 and 1,000,000 tpa</p> <p>Off-site Transportation: Between 25 and 200 HDV movements in any one day on site access road with medium dust potential between 20 to 50m in length with HDV cleaning facilities or road sweeper available</p>
Small	<p>Site Preparation/Restoration: Working area <2.5ha, bunds <4m in height, <20,000m³ of material movement, <5 heavy plant simultaneously active, all bunds seeded, material with a high moisture content</p> <p>Mineral Extraction: Working area <20ha, hydraulic excavator, coarse material and/or low moisture content, <200,000tpa extraction rate</p> <p>Materials Handling: <5 plants >100m from the site boundary within the quarry void or clean hardstanding, transferring material of low dust potential and/or high moisture content</p>

Residual Source Emission Magnitude	Suggested Definition
	<p>On-site Transportation: Employment of covered conveyors used for the majority of the on-site transportation of material, <100 movements of vehicles per day, with surface materials of compacted aggregate, <500m in length and a maximum speed of 15mph</p> <p>Mineral Processing: Fixed screening plant with effective design in dust control, processing <200,000tpa of material with a low dust potential and/or high moisture content e.g. wet sand and gravel</p> <p>Stockpiles and Exposed Surfaces: Stockpile duration of <1 month with a total area <2.5ha in an area of low wind speeds, located >100m from the site boundary, weekly transfers of material with a low dust potential and/or high moisture content, quarry production <200,000tpa</p> <p>Off-site Transportation: <25 HDV movements in any one day, paved surfaced site access road <20m in length, with effective HDV cleaning facilities and procedures, the employment of an effective road sweeper</p>

Pathway Effectiveness

3.1.22 Pathway effectiveness was determined using a combination of the distance of the sensitive receptor to emissions source and the frequency of potentially dusty winds blowing towards the receptor. To ensure a robust scenario, the distance between the sensitive receptors and the closest site boundary was utilised, and all winds greater than 5 m/s were considered to be potentially dusty.

3.1.23 Table 3 details the criteria used to categorise the distance between the source and the receptor.

Table 3: Categorisation of Receptor Distance from Source

Category	Criteria
Distant	Receptor is between 200 m and 400 m from the dust source
Intermediate	Receptor is between 100 m and 200 m from the dust source
Close	Receptor is less than 100m from the dust source

3.1.24 Table 4 details the criteria used to categorise the frequency of potentially dusty winds. All winds greater than 5 m/s were considered to be potentially dusty in order to provide a robust-case assessment scenario, regardless of rainfall.

Table 4: Categorisation of Frequency of Potentially Dusty Winds

Category	Criteria
Infrequent	Frequency of winds (> 5m/s) from the direction of the dust source on dry days are less than 5%
Moderately Frequent	The frequency of winds (> 5m/s) from the direction of the dust source on dry days are between 5% and 12%
Frequent	The frequency of winds (> 5m/s) from the direction of the dust source on dry days are between 12% and 20%
Very frequent	The frequency of winds (> 5m/s) from the direction of the dust source on dry days are greater than 20%

3.1.25 The distance between the source and receptor and the frequency of potentially dusty winds were then combined to determine the pathway effectiveness based on the criteria outlined in Table 5.

Table 5: Pathway Effectiveness

Receptor Distance Category	Frequency of Potentially Dusty Winds			
	Infrequent	Infrequent	Frequent	Very frequent
Close	Ineffective	Moderately Effective	Highly Effective	Highly Effective
Intermediate	Ineffective	Moderately Effective	Moderately Effective	Highly Effective
Distant	Ineffective	Ineffective	Moderately Effective	Highly Effective

Dust Impact Risk

- 3.1.26 The residual source emissions magnitude of the activities were defined using the matrix detailed in Table 6.

Table 6: Estimation of Dust Impact Risk

Pathway Effectiveness	Residual Source Emissions Magnitude		
	Minor	Moderate	Major
Highly Effective	Low Risk	Medium Risk	High Risk
Moderately Effective	Negligible Risk	Low Risk	Medium Risk
Ineffective	Negligible Risk	Negligible Risk	Low Risk

Step 3: Estimate Likely Magnitude Effect

- 3.1.27 The dust impact risk at the receptors and the sensitivity of the receptors were combined to predict the likely magnitude of effect. Table 7 details the criteria utilised to determine receptor sensitivity.

Table 7: Sensitivities of People to Dust Soiling Effects

Receptor Sensitivity	Examples
High	Users can reasonably expect enjoyment of a high level of amenity; or The appearance, aesthetics or value of users' property would be diminished by soiling; or The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land. Indicative examples include dwellings, medium and long term car parks and car showrooms.
Medium	Users would expect a to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or The appearance, aesthetics or value of users' property could be diminished by soiling; or The people or property wouldn't reasonably be expected to be present continuously or regularly for extended periods as part of the normal pattern of use of the land. Indicative examples include parks and places of work.
Low	The enjoyment of amenity would not reasonably be expected; or The appearance, aesthetics or value of users' property would not be diminished by soiling; or There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land. Indicative examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.

- 3.1.28 Table 8 details the methodology for determining the magnitude of potential dust effects.

Table 8: Descriptors for Magnitude of Dust Effects

Risk of Dust Impact	Receptor Sensitivity		
	Low	Medium	High
High Risk	Slight Adverse Effect	Moderate Adverse Effect	Substantial Adverse Effect
Medium Risk	Negligible Effect	Slight Adverse Effect	Moderate Adverse Effect
Low Risk	Negligible Effect	Negligible Effect	Slight Adverse Effect

- 3.1.29 The overall magnitude of effect from dust deposition on the surrounding area was then determined. This relies on professional judgement and reasoning should be provided as far as practicable. This methodology has been considered throughout the assessment when defining predicted effects.

Nitrogen Dioxide and Fine Particulate Matter (PM)

- 3.1.30 NO₂ and fine PM (PM₁₀ and PM_{2.5}) are predominantly associated with industrial and road vehicle combustion processes. No industrial combustion processes are located on the concrete batching site and, as stated, the proposal does not provide any additional road traffic. As such, NO₂ impacts do not need further consideration in the assessment and PM fugitive emissions are considered from on-site processes.

Interim PM_{2.5} Guidance

- 3.1.31 DEFRA has produced interim PM_{2.5} planning guidance on the consideration of the Environment Act PM_{2.5} targets in planning decisions.
- 3.1.32 Interim guidance advises applicants to provide evidence in their planning applications that they have identified key sources of air pollution within their schemes and taken appropriate action to minimise emissions of PM_{2.5} and its precursors as far as is reasonably practicable.
- 3.1.33 Notwithstanding this, the assessment considers background PM_{2.5}, identifies key dust sources and details mitigation measures.

4.0 Baseline Conditions

Existing conditions in the vicinity of the site were identified in order to provide a baseline assessment. These are detailed in the following sections.

4.1 Existing Dust Emissions

- 4.1.1 The main local contribution to baseline dust emissions aside from the existing concrete batching plant are the large scale development construction activities surrounding the site. The cumulative impact of these activities have the potential to cause dust annoyance in the locality.

4.2 Monitored Concentrations

- 4.2.1 Monitoring of pollutant concentrations is undertaken by MCC throughout their area of administration using continuous and passive techniques.
- 4.2.2 A review of the most recent Air Quality Status Report³ indicated one automatic analyser currently operated by MCC within 1 km of the site.

Table 2 Automatic Analyser Monitoring Results

Site ID	Name	Pollutant	Averaging Period	Concentration (µg/m³)			
				2020	2021	2022	2023
MAN1	Manchester Oxford Road Kerbside	NO ₂	Annual Mean	36	44	43	41
			1-hour Means (>200 µg/m³)	0	0	3	0
		PM ₁₀	Annual Mean	18	18	18	18
			24-hour Means (>50 µg/m³)	5	2	8	4

- 4.2.3 Data from the automatic analyser indicated exceedances of the annual mean AQO for NO₂ in recent years. Annual mean PM₁₀ or short term concentrations at MAN1 did not exceed the objectives.
- 4.2.4 MCC also employ passive diffusion tubes to monitor annual mean NO₂ concentrations throughout the city. Whilst NO₂ emissions have been scoped out of this assessment these results are included to provide some further context. A review of the latest diffusion tube monitoring data indicated three located close to the site. Data from recent years is presented in Table 9.

Table 9 Diffusion Tube Monitoring Results

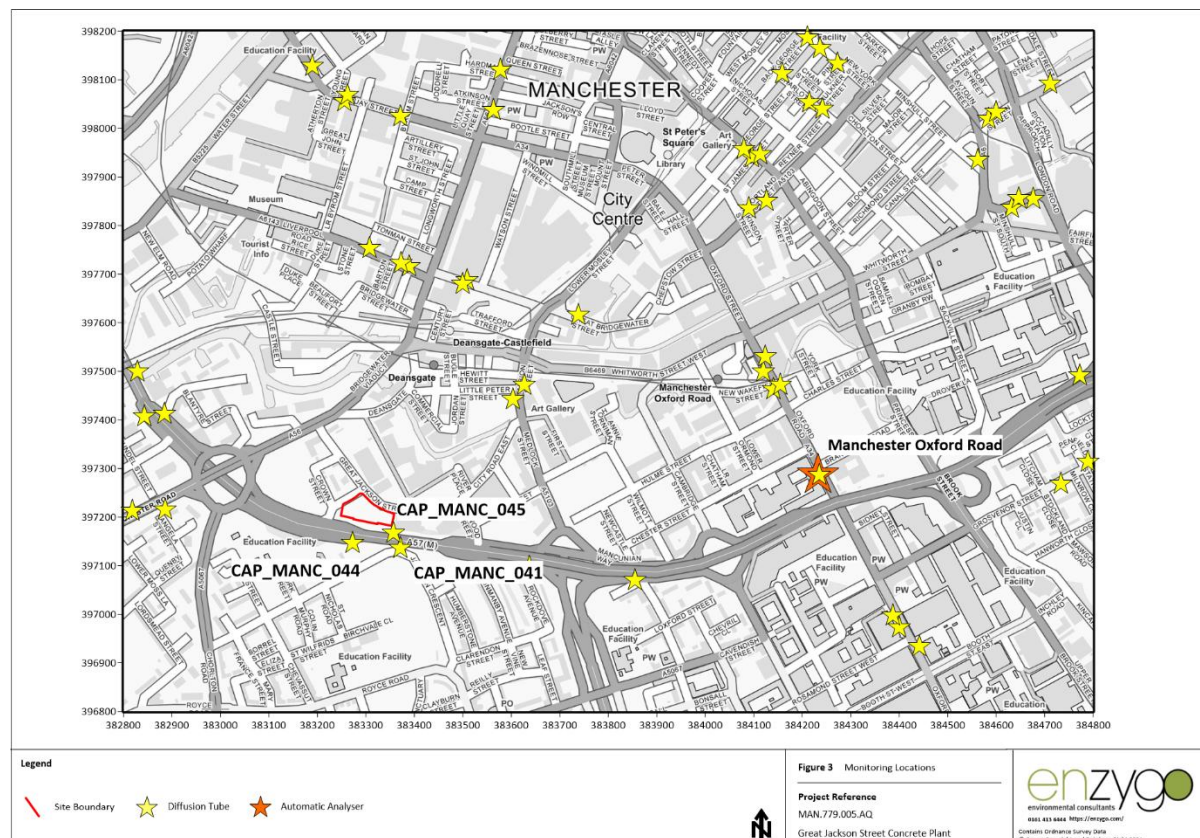
ID	Site Name	Type	NGR (m)		Dist' to Site (m)	Annual Mean Concentration (µg/m³)			
			X	Y		2020	2021	2022	2023
CAP_MAN C_041	A57 (M) (Mancunian Way)	Roadside	446383	523972	60	36.2	41.1	40.4	39.3
CAP_MAN C_044	A57 (M) (Mancunian Way)	Roadside	449600	529100	47	43.7	52.2	33.6	
CAP_MAN C_045	A57 (M) (Mancunian Way)	Roadside	451065	520140	27	50.0	56.4	64.7	50.4

³ 2023 Air Quality Annual Status Report, Greater Manchester Combined Authority, June 2024

4.2.5 As indicated in Table 9, the annual mean AQO for NO₂ is exceeded at the roadside monitoring locations in recent years. The monitored concentrations for 2020 and 2021 will be affected by COVID lockdown measures.

4.2.6 Figure 3 shows the location of the nearest diffusion tubes and automatic monitoring locations

Figure 3 Monitoring Locations



DEFRA Background Pollutant Concentrations

4.2.7 To assist local authorities in their air quality review and assessments, DEFRA⁴ have produced background concentration maps for PM₁₀ and PM_{2.5}. Predictions are based on a 1 km by 1 km grid basis across the entire UK. The facility site is located within the grid square centred at NGR: 383500, 397500. Data for this location was identified for the current year (2025) as shown in Table 10.

Table 10: Predicted Background PM Concentrations

Pollutant	Annual Mean Concentration (µg/m ³)
PM ₁₀	14.26
PM _{2.5}	7.98

4.2.8 DEFRA background PM concentrations are low and do not exceed the relevant AQOs. Background PM concentrations are less than 50% of the AQO and are unlikely to be exceeded at receptors close to the concrete batching facility.

⁴ <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>

4.3 Sensitive Receptors

4.3.1 Representative sensitive receptors to dust impacts were identified from a desk-top study of the area. The surrounding area to the facility is undergoing a major redevelopment and the batching plant is serving many of those developments.

4.3.2 The following developments have been considered in this assessment:

- Plot F: Planning application reference: 132199/FO/2021 – Under construction completed August 2027 (Residential)
- Plot C: 126668/FO/2020 – Complete (Residential)
- Plot C (School): 133516/MO/2022 – Complete (Education)
- Bridgewater: 134694/FO/2022 (Permission granted, but not implemented)
- Plot G 129273/FO/2021 (Permission granted, but not implemented)
- Crown Street Phase 3: 137226/FO/2023 (Resolution to grant permission (decision expected imminently, but not implemented)
- One Medlock St (wider context): 135419/FO/2022 (Permission granted. Implementation expected imminently)

4.3.3 Of those developments not yet completed it is expected that only Plot F would provide a live sensitive residential receptor within the 3 year timeframe of the proposed 3 year permission. However, to provide a robust assessment, all live development locations have been considered as receptors.

4.3.4 In addition to the recently developed areas, a receptor at an established residential receptor to the south of the facility on Jackson Crescent has been included.

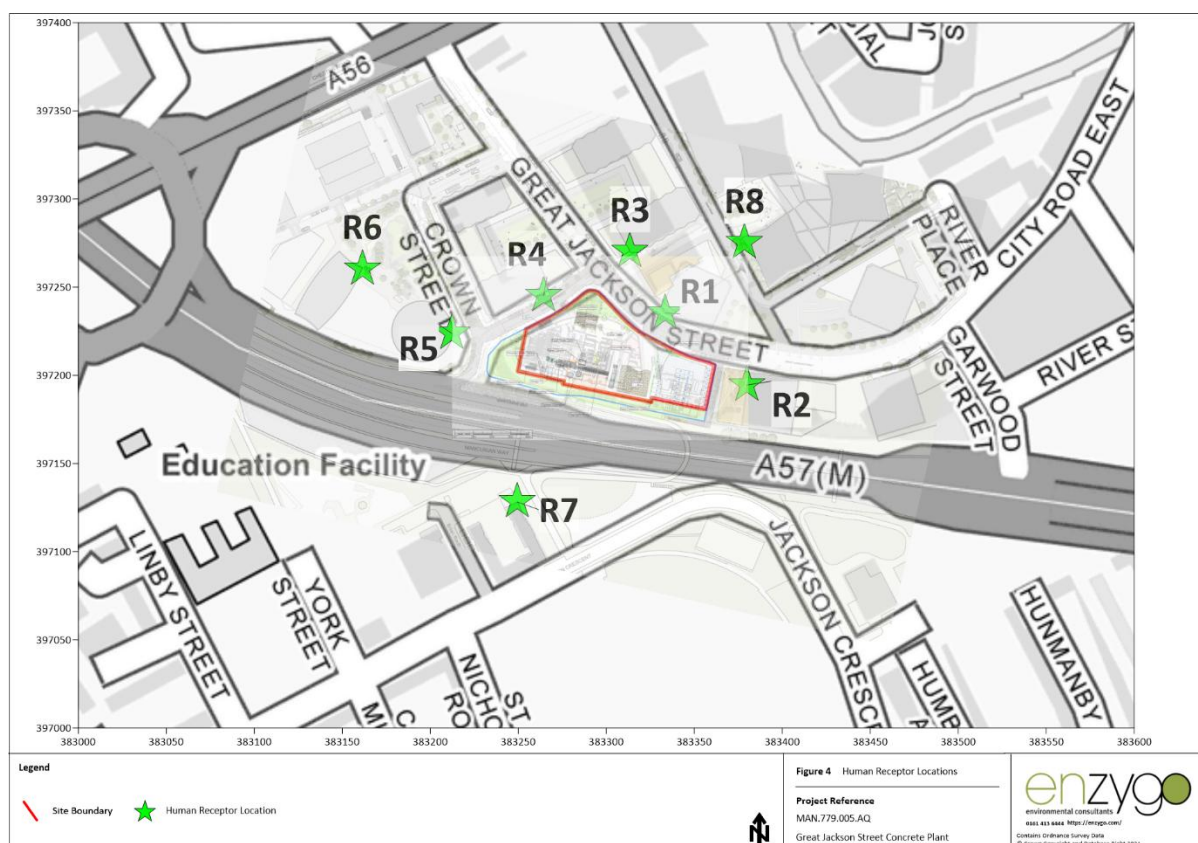
4.3.5 The location of these receptors alongside their sensitivity and approximate distance from the existing cement batching dust sources is summarised in Table 11.

Table 11: Sensitive Receptors – Existing Dust Sources

ID	Location	X	Y	Approximate Distance from Source (m)	Direction From Source	Receptor Sensitivity
R1	Plot F	383333	397235	20	North East	High
R2	Plot G	383380	397194	59	East	High
R3	Plot D	383313	397270	44	North	High
R4	Crown Street Ph3	383264	397245	15	North West	High
R5	Plot C - Residential	383212	397224	60	West	High
R6	Plot C - School	383161	397260	115	West	High
R7	Jackson Crescent	383249	397128	91	South	High
R8	Deansgate Square	383378	397275	79	North East	High

4.3.6 See Figure 4 for a graphical representation of sensitive receptor locations.

Figure 4: Sensitive Receptor Locations



4.3.7 The receptors represent the closest and most sensitive locations to the facility and it is not expected that additional receptor locations beyond those under consideration would be subjected to greater impacts.

5.0 Assessment

5.1 Scope

- 5.1.1 The predicted impact of the facility dust emissions on surrounding sensitive receptors were assessed distinctly in accordance with the IAQM methodology described in Section 3.0.

5.2 Prevailing Meteorological Conditions

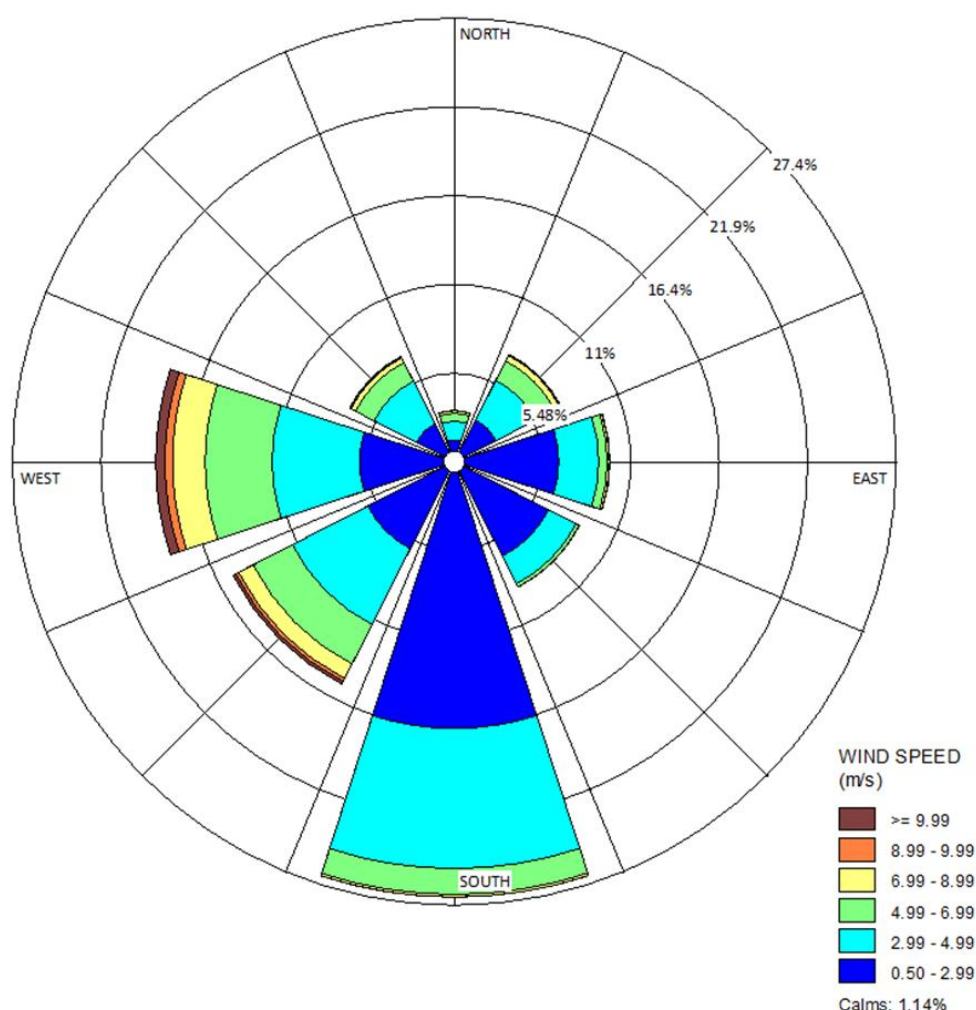
- 5.2.1 The potential for dust emissions generated by the facility to cause impacts at sensitive locations depends largely on the meteorology, particularly wind direction and speed. In order to consider prevailing conditions at the site, a review of meteorological data was undertaken.
- 5.2.2 Data was taken from Manchester Airport meteorological station over a 6-year period (1st January 2017 to 31st December 2022 inclusive). The meteorological station is located approximately 13 km south of the facility is considered a suitable source of data for the assessment area.
- 5.2.3 The frequency of wind from the eight sectors are shown in Table 12. The prevailing wind directions are shown in **bold**.

Table 12: Wind Frequency Data

Wind Direction	Wind Direction (°)	Total Frequency of Wind (%)	Total Frequency of Wind ≥5m/s (%)
North	337.5 - 22.5	3.19	0.67
North-east	22.5 - 67.5	7.45	1.80
East	67.5 - 112.5	9.63	0.68
South-east	112.5 - 157.5	8.70	0.23
South	157.5 - 202.5	26.83	1.76
South-west	202.5 - 247.5	15.39	4.12
West	247.5 - 292.5	18.48	7.19
North-west	292.5 - 337.5	7.31	1.72
Sub-Total		96.99	
Calms		1.14	
Missing/Incomplete		1.87	
Total (%)		100.0	

- 5.2.4 All meteorological data used in the assessment was provided by Atmospheric Dispersion Modelling (ADM) Ltd, which is an established distributor of meteorological data within the UK.
- 5.2.5 As shown above the prevailing wind directions are from the south and west which is indicative of prevailing conditions throughout the UK. Winds from the north and east and calm conditions are infrequent.
- 5.2.6 Figure 5 provides a windrose of the meteorological data.

Figure 5: Manchester Airport 2017 - 2022 Wind Rose



5.3 Meteorological Conditions

- 5.3.1 Locations to the east, north and north east would be most affected by prevailing winds.
- 5.3.2 Proposed residential receptors at Plots D, F and G and existing receptors at Deansgate Square therefore have the potential to be most affected.
- 5.3.3 There is a lower potential for impacts to occur at the remaining receptor locations based on a lower sensitivity or fewer winds blowing from the site.
- 5.3.4 Based on the meteorological data summarised in Table 12 specific receptor locations could experience impacts for a maximum frequency of 26.8%.
- 5.3.5 However, dusty winds generally occur when wind speeds are greater than 5 m/s. Table 12 indicates that westerly wind speeds over 5 m/s towards Plot G occur for 7.2% of the time and south westerly winds towards plots D, F and Deansgate Square occur for approximately 4.1% of the time.
- 5.3.6 Other receptors would be affected by potentially dusty winds less frequently (between 0.2% and 2%). The completed Crown Street development would be affected by potentially dusty easterly winds for an approximate frequency of 0.7%.

- 5.3.7 Therefore, potentially dusty winds in the direction of the nearest residential sensitive receptor are considered as a worst case to be moderately frequent (between 5% and 12%) in accordance with IAQM guidance¹.

Risk Assessment

Human Health Risk

- 5.3.8 The background PM₁₀ concentration as predicted by DEFRA during 2025 is 14.26 µg/m³, which is below the screening criteria of 17 µg/m³ specified in Section 3.1.14. Kerbside monitoring at Manchester Oxford has been monitoring concentrations of 18 µg/m³ in recent years and can be taken as another indication that background concentrations would be much lower.
- 5.3.9 The impacts of suspended dust on human health were therefore screened out as not significant in accordance with the IAQM guidance¹.

Interim PM_{2.5} Guidance Requirements

- 5.3.10 Interim guidance advises applicants to provide evidence in their planning applications that they have identified key sources of air pollution within their schemes and taken appropriate action to minimise emissions of PM_{2.5} and its precursors as far as is reasonably practicable.
- 5.3.11 The background PM_{2.5} concentration as predicted by DEFRA during 2025 is 7.98 µg/m³ which is below the 2040 target level of 10 µg/m³.
- 5.3.12 Fugitive emissions from the facility has potential to increase concentrations in the vicinity of the site however PM_{2.5} emissions are generally associated with fossil fuel combustion and typically concrete batching fugitive PM emissions are greater in size. Research based on Portland cement concrete batching plants⁵ has indicated that 40% of the total PM emitted from concrete batching is PM₁₀ and only 6% is PM_{2.5}. Impacts on PM_{2.5} concentrations are therefore limited and unlikely to be significant

In addition, the short-term nature of the proposals mean that the facility will not operate in the years leading up to 2040 and therefore emissions from the facility will make no contribution to the UK target year concentrations.

- 5.3.13 Notwithstanding this the assessment identifies all potential particle emissions and highlights mitigation measures to control fugitive sources.

Site Location

- Site location – the site has an existing use as a concrete batching site. It is located close to the majority of end use sites to reduce vehicle movements, road traffic and nuisance. In addition, the site has a set-back distance to the closest potential receptor of 20 m. The use of an alternative site would have the potential to introduce new sources of pollution in that location and increase vehicle mileage.
- It is understood that there are no issues with PM emissions from the current operation of the facility.
- On-site users of the facility are not for recreational or residential purposes and their protection to exposure from emissions is provided under the health and safety at work regulations.

⁵ PM Size and Chemical Speciation Profile for Concrete Batching—PM3431, Wenli Yang, October 22, 2013

- 5.3.14 The site location given its current use and temporary requirement are considered acceptable in the context of future PM_{2.5} targets.

Mitigation

- Layout and Design. The site layout is designed to safely allow access to materials whilst providing bays to control fugitive emissions. The openings of the bays closest to sensitive receptors are facing in the opposite direction and covered to minimise potential impacts.
- Fully enclosed and wet batching technology is current used and will continue to be employed at the facility.
- A site wide water spraying technology will continue to be employed at the facility to minimise fugitive emissions during dry and dusty conditions.

- 5.3.15 As such, it is considered that effective measures would be provided to reduce exposure at nearby sensitive receptors and future PM_{2.5} impacts would be not significant.

Step 1: Site Characteristics and Baseline Conditions

- 5.3.16 Existing meteorological conditions at the site have been defined and analysed in Sections 5.2 and 5.3. Existing dust sources in the local area were also identified as shown in Section 4.3.

- 5.3.17 The desk-top review identified indicated the site is located in a predominantly industrial/commercial area, with some residential receptors in the immediate surroundings. As detailed in Table 13, the main existing dust sources in the area are activities associated with the existing concrete production facilities.

- 5.3.18 In accordance with the IAQM guidance¹ detailed in Section 3.2.1, dust deposition impacts can be screened out dependent on the distance between the dust source and the sensitive receptors. Sensitive receptors between 250 m and 400 m from the potential dust source can normally be omitted from an assessment.

Step 2: Estimate Dust Impact Risk

Residual Source Emissions

- 5.3.19 The residual source emission categories assigned to each site activity outlined in Table 13 were defined based on a site visit and information provided by the operator and supporting documentation.
- 5.3.20 The batching facility is designed to minimise the potential for the generation of dust, with wet processing within fully enclosed plant.
- 5.3.21 It further dust control and suppression measures are to be conducted as part of the retention of the activities.
- 5.3.22 In line with IAQM guidance¹ Table 13 defines the source emission magnitude. This provides a worst case residual emission magnitude following the consideration of mitigation measures.

Table 13: Residual Source Emission Magnitude

Dust Generating Activity	Residual Source Emission Magnitude	Justification
Site Preparation	None	<ul style="list-style-type: none"> The existing ground levels and surfaces will be retained across the site.
<i>Mineral Extraction</i>	<i>None</i>	<ul style="list-style-type: none"> <i>Not applicable</i>
Materials Handling (Proposed)	Medium	<ul style="list-style-type: none"> Cement, sand and aggregates will be deposited by lorries directly into bays near the proposed cement batching plant indicated in Figure 2. Fine aggregates (lime) stored in a covered bay A water spray will be located at the storage bays and used during dry and windy conditions to dampen materials and control emissions Materials transported from storage areas are fed into the feed silos with loaders An integrated water spray system is installed on the site with sprays located near the storage bays and feed hoppers
On-site Transportation (Proposed)	Medium	<ul style="list-style-type: none"> All on-site road surfaces are concreted to ensure that the site can be managed in a clean and tidy manner. Dumper trucks deposit aggregates On site loader vehicles used to load materials Cement mixers collect and transport concrete off-site Integrated spray system operated during dry and dusty conditions to keep internal surfaces clean and non-dusty Wet enclosed cement process less likely to give rise to dusty internal road surfaces 5 mph speed limit
Material Processing (Proposed)	Small	<ul style="list-style-type: none"> Cement batching process is wet and enclosed. Fugitive emissions are unlikely during normal operation
Stockpiling/Exposed Surfaces (Proposed)	Small	<ul style="list-style-type: none"> Material stockpiled within bays – fine aggregates (lime) stored in a covered bay to control dust resuspension Fixed water spray system used in dry and windy conditions to avoid resuspension from stock piles Non fine aggregates not dusty
Off-site Transportation (Proposed)	Medium	<ul style="list-style-type: none"> No proposed increase in off-site vehicle movements Access point and internal surfaces are hardstanding External roads swept kept clean when required Imported fine materials on HGVs sheeted or enclosed where necessary Only southern shared access marked on Figure 2 will be used

5.3.23 The residual source emission magnitude, taking into account proposed best practice control measures at the site, was determined to be at a worst case 'medium' for the facility.

5.3.24 Proposed controls are provided by the site layout, fully enclosed batching process and side wide water spraying provisions.

5.3.25 This assessment has been undertaken on the presumption that these dust control measures are implemented efficiently and maintained appropriately at all times. This is in line with the IAQM guidance¹ which states that designated mitigation measures should be considered into account when determining the residual source emission.

Pathway Effectiveness

- 5.3.26 The pathway effectiveness for the concrete batching dust sources at each sensitive receptor is displayed in Table 14. This is based on distance and orientation of each receptor to the source (see Table 11) and frequency of potentially dusty winds blowing towards that receptor (Table 12).

Table 14: Existing Pathway Effectiveness

ID	Receptor Distance Category	Direction from Source	Frequency of Potentially Dusty Winds	Pathway Effectiveness
R1	Close	North East	Moderately frequent	Moderately Effective
R2	Close	East	Moderately frequent	Moderately Effective
R3	Close	North	Moderately frequent	Moderately Effective
R4	Close	North West	Infrequent	Ineffective
R5	Close	West	Infrequent	Ineffective
R6	Intermediate	West	Infrequent	Ineffective
R7	Close	South	Infrequent	Ineffective
R8	Close	North East	Moderately frequent	Moderately Effective

- 5.3.27 To provide a worst-case scenario, all winds of speeds greater than 5 m/s were considered to be 'potentially dusty' regardless of the amount of rainfall. This is likely to result in an over-prediction of the pathway effectiveness.

- 5.3.28 The pathway is moderately effective for receptors R1, R2, R3 and R8 due to proximity and prevailing winds and ineffective for all other receptors. The pathway to R8 will be made less effective significantly on completion of Plot F which would provide a significant barrier.

Dust Impact Risk

- 5.3.29 The dust impact risk at each receptor, as shown in Table 15, was determined based on the maximum existing residual source emissions (materials processing - Table 13) and pathway effectiveness (Table 14).

Table 15: Dust Impact Risk

ID	Residual Source Emissions	Pathway Effectiveness	Dust Impact Risk
R1	Medium	Moderately Effective	Low Risk
R2	Medium	Moderately Effective	Low Risk
R3	Medium	Moderately Effective	Low Risk
R4	Medium	Ineffective	Negligible Risk
R5	Medium	Ineffective	Negligible Risk
R6	Medium	Ineffective	Negligible Risk
R7	Medium	Ineffective	Negligible Risk
R8	Medium	Moderately Effective	Low Risk

Step 3: Estimate Likely Magnitude of Effect

- 5.3.30 The predicted magnitude of dust impacts, as shown in Table 16, was determined based on the dust impact risk and the receptor sensitivity.

Table 16: Existing Magnitude of Dust Impacts

Receptor	Dust Impact Risk	Receptor Sensitivity	Magnitude of Impact
R1 - Plot F	Low Risk	High	Slight Adverse Effect
R2 - Plot G	Low Risk	High	Slight Adverse Effect
R3 - Plot D	Low Risk	High	Slight Adverse Effect
R4 - Crown Street Ph3	Negligible Risk	High	Negligible Effect
R5 - Plot C - Residential	Negligible Risk	High	Negligible Effect
R6 - Plot C - School	Negligible Risk	High	Negligible Effect
R7 - Jackson Crescent	Negligible Risk	High	Negligible Effect
R8 - Deansgate Square	Low Risk	High	Slight Adverse Effect

- 5.3.31 The assessment of dust source magnitudes is based on the stated dust control measures being implemented throughout the lifetime of the development.
- 5.3.32 The impact of dust emissions is predicted to be, at worst, slight adverse at the uncompleted residential Plots D, F and G and existing receptors at Deansgate Square. Plots F, G and D would only be considered as sensitive receptors when completed and any slight adverse impact in these locations would be transient.
- 5.3.33 The Deansgate Square (R8) development would benefit from a decrease in pathway effectiveness as Plots D and F are implemented.
- 5.3.34 All other receptors are predicted to have negligible effect including at the existing residential and school buildings on the Crown Street and Plot C developments.
- 5.3.35 The impact of dust emissions from the proposed process is predicted to be negligible at all other sensitive receptor locations. Negligible and slight adverse impacts are considered as not significant in line with IAQM guidance¹.

Further Best Practice Control Measures

- 5.3.36 Notwithstanding the results of the risk assessment and given the potential for cumulative impacts, it is recommended that good practice dust control measures are employed as part of ongoing operations. These include:
- Maintain daily visual inspections of dust emissions and boundary checks;
 - Log dust inspections, complaints, and investigation into causes and measures taken to control dust emissions;
 - Maintenance of water spaying capability on the site;
 - Damping down of surfaces and internal vehicle routes during dry and windy conditions; and
 - Enclosed or sheeting of delivery vehicles.
- 5.3.37 The assessment has shown that the proposed continued use of the concrete batching process would not have unacceptable adverse impact on existing or proposed new sensitive receptors.
- 5.3.38 The overall impact of fugitive dust emissions generated by the facility during operation is therefore not significant in accordance with the IAQM guidance¹.

6.0 Conclusions

- 6.1.1 The proposals for the continued use of the batching plant have the potential to cause impacts at sensitive locations within the vicinity of the site. As such, a dust assessment has been undertaken to assess the significance of these impacts.
- 6.1.2 A dust assessment was carried in line with IAQM guidance using a source-pathway-receiver approach to assess the continuation of concrete batching operations in light of the construction of additional sensitive receptors. This provided an assessment of impact risks at sensitive locations and determined the overall significance of impacts.
- 6.1.3 A baseline assessment was completed including a survey of the site and the surrounding locations. The site is located within an area of large scale development with a mixture of completed, ongoing and yet to be implemented residential buildings.
- 6.1.4 Existing baseline concentrations are considered to be below PM_{10} and $PM_{2.5}$ AQOs. $PM_{2.5}$ emissions were considered in line with interim planning guidance although concrete batching plants would not normally emit a high proportion of fine ($PM_{2.5}$) particles. The location, site layout and control measures are considered to be acceptable. In addition, due to the transient nature of the facility 2040 $PM_{2.5}$ concentrations would not be affected by the temporary extension of use.
- 6.1.5 There is the potential for dust emissions from the depositing, storage and processing of materials on the site. The magnitude of these emissions was assessed for the current layout and processes as it is not proposed to revise operations. Dust control measures were considered when determining dust source potential.
- 6.1.6 The pathway from the emission sources to sensitive locations was determined by analysing meteorological data and distance from the source.
- 6.1.7 The dust assessments showed operations could cause slight and negligible impacts at new and existing sensitive receptors.
- 6.1.8 However, the proposed batching operation impacts were predicted to be negligible at all locations due to the improved enclosed wet process, the relocation of the plant from the most sensitive receptor and dust control measures.
- 6.1.9 It is recommended that good practice dust and control measures on the site are implemented throughout the lifetime of the development.
- 6.1.10 As such all mitigated emission impacts from the Proposed Development were assessed as not significant.

7.0 Abbreviations

ADM	Atmospheric Dispersion Modelling
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Strategy
ASR	Air Quality Status Report
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EPUK	Environmental Protection UK
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LPA	Local Planning Authority
MCC	Manchester City Council
NGR	National Grid Reference
NO ₂	Nitrogen Dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
PM ₁₀	Particulate Matter with an aerodynamic diameter less than 10 µm
PM _{2.5}	Particulate Matter with an aerodynamic diameter less than 2.5 µm



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