# Appeal by Breedon Trading Limited against Denbighshire County Council's refusal of planning permission at Denbigh Quarry, Plas Chambers Road, LL16 5US

## Planning Application No.: 01/2022/0523

## PEDW ref: CAS-03423-V9Z8M3

## Proof of Evidence on Air Quality/Dust

**Malcolm Walton**

**SLR Consulting Limited**

**June 2025**

# 1. Introduction and Personal Details

1.1 My name is Malcolm Thomas Walton. I hold a Bachelor of Science degree in Environmental Health and the Institute of Acoustics diploma in Noise and Vibration Control. I am a fully qualified Environmental Health Officer, now working in private consultancy.

1.2 I am a Member of the Chartered Institute of Environmental Health and an Associate Member of the Institute of Acoustics. I am a Technical Director with Wardell Armstrong (part of SLR) with whom I have been employed for more than twenty years.

1.3 I regularly assess the air quality impacts of proposed and existing developments (including dust) and have given evidence at over 20 public inquiries and in court as a consultant and as a Local Authority Officer.

1.4 I have previously worked for nine years for Sefton Metropolitan Borough Council in the Pollution Control section with responsibilities for pollution investigation, assessment and enforcement.

1.5 The evidence which I have prepared and provide for this Appeal is true to the best of my knowledge and belief. I confirm that the opinions expressed are my true and complete professional opinions in the matters to which they refer.

# 2. Scope of Evidence

2.1 On 23 January 2024, Denbighshire County Council (DCC) refused an application made by Breedon Trading Limited seeking planning permission for: *Consolidating application for the extension of winning and working of limestone, importation of inert waste and restoration to amenity land at Denbigh Quarry, Plas Chambres Road, LL16 5US.*

2.2 Reason for Refusal 3 states: "*It is the opinion of the Local Planning Authority that the proposed lateral extension to the quarry would have a negative impact on the amenity and well-being of local residents. The proposal is therefore considered to be contrary to Local Development Plan Policies PSE 16 'Buffer Zones', PSE 17 'Future Mineral Extraction' and advice contained in Minerals Technical Advice Note 1 'Aggregates', Technical Advice Note 21 'Waste', the Development Management Manual and Planning Policy Wales 11 (Including updated Chapter 6)*".

2.3 A Draft Statement of Common Ground (SoCG) has been jointly prepared by the appellant and the Council which states that "I*n light of the agreed conditions set out in Appendix 1, the parties agree that this is not a matter in dispute between the Appellant and the Council and there are no unacceptable amenity impacts from dust/air quality*." Appendix 1 contains draft condition 26 which requires the preparation and approval of a Dust Management and Monitoring Action Plan.

2.4 My evidence deals specifically with the air quality/dust impacts associated with the application. I shall describe the assessment work carried out, review relevant national and local policies, review relevant submitted representations, then provide my conclusions.

2.5 Documents referred to in this proof:

- Volume 2 Environmental Statement, Chapter 8 Air Quality, Pleydell Smithyman Limited (CD1.22);
- Environmental Statement Volume 2: Appendix 6-1 Dust Risk Assessment, Pleydell Smithyman Limited (CD 1.27);
- Denbigh Quarry, Dust Impact Assessment SLR Consulting Limited, 14 July 2023 revision 1.1 (CD 3.02);
- DCC Committee Report (CD 5.02);
- Enzygo Environmental Consultants – Air Quality Impacts Assessment Technical Appraisal, dated 5 June 2023 (CD 4.09);
- Enzygo Environmental Consultants – Revised Air Quality Impacts Assessment Technical Appraisal, dated 18 August 2023 (CD 4.11);
- Agreed SoCG May 2025; and
- Institute of Air Quality Management (IAQM) Guidance on the impacts of mineral dust for planning, v1.1 2016 (CD 6.23).

**Appendix 1** – Example Dust Action Plan for Cloud Hill (Limestone) Quarry.

## 3. Assessment work carried out

3.1 A dust and air quality assessment was carried out as part of the Environmental Statement (Volume 2) which accompanied the application (CD1.22 and CD1.27). The chapter considered the potential impacts from dust and particulate emissions from the proposed operations at human and ecological sensitive receptors around the site.

3.2 The air quality impact of offsite vehicle emissions associated with the application was screened out of the assessment, as it is understood that production rates and associated vehicle movements are not proposed to change from current permitted levels.

3.3 The IAQM published ‘Guidance on the impacts of mineral dust for planning’ in May 2016 (CD 6.23). This guidance uses a simple distance-based screening process to identify those minerals sites where the dust impacts are unlikely to be significant and therefore require no further assessment. Where more detailed assessment is required, a basic assessment framework is presented

which employs the Source - Pathway - Receptor approach to evaluate the risk of particulate matter ($PM_{10}$) and dust impacts and effects.

3.4 In accordance with the IAQM guidance, potential mineral dust impacts were considered at human and ecological receptors up to 400m from the Proposed Quarry Extension boundary.

3.5 The assessment presented in Environmental Statement Chapter 8 concluded that the Proposed Quarry Extension is considered to have a 'negligible' and therefore 'not significant' effect on dust soiling / disamenity and health effect at all receptors in the surrounding area.

3.6 DCC employed independent consultants (Enzygo Environmental Consultants) to review Environmental Statement Chapter 8 who raised criticisms relating to, in particular, the assessment of blasting dust sources and choice of meteorological data used in the assessment (CD 4.09).

3.7 In 2023, the applicant commissioned SLR Consulting Ltd to undertake a new mineral dust impact assessment to address the criticisms raised (CD 3.02).

3.8 The more comprehensive assessment carried out by SLR included a revised baseline evaluation, an assessment of dust emissions and associated impacts and effects associated with proposed and existing activities, and a review of dust control measures at the site with recommendations for additional controls and mitigation measures, where required.

3.9 Dust arising from limestone quarrying operations has the potential to reduce amenity in the local community and damage sensitive ecological receptors due to visible dust plumes and soiling / deposition; these coarse dust particles are referred to as 'deposited dust'. However, smaller dust particles can remain airborne for longer, potentially increasing local ambient concentrations of suspended particulate matter (e.g. $PM_{10}$) and is associated with health effects.

3.10 Denbigh Quarry is extracted for limestone. In accordance with the applied IAQM methodology, the assessment considers all relevant sensitive receptors within 400m of the Site for potential deposited dust impacts and all human receptors within 1km for $PM_{10}$.

3.11 The report identifies the nearest human receptors of 'high' sensitivity (including a school) are located between 256m and 714m from the proposed extension boundary; commercial receptors of 'medium' sensitivity are located approximately 500m from the proposed extension boundary; and recreational receptors of 'low' sensitivity (i.e. footpaths) located between approximately 40m to 120m from the proposed extension boundary. As stated in the DCC committee report (CD 5.02 p83) "[…] *the proposed extension would not result in the quarry boundary, or any operations being nearer to residential properties*". The nearest ecological receptors to the site boundary comprising two Sites of

Special Scientific Interest (SSSI) and numerous ancient woodland are also identified and assessed.

3.12 In respect of baseline conditions, DCC do not monitor $PM_{10}$ background concentrations in the area therefore Defra modelled background concentration data has been used to inform the assessment. However, the applicant carried out periodic particulate monitoring at 2 locations within the existing quarry boundary over three months in 2021. During this monitoring, the highest $PM_{10}$ period mean result was 13.4µg/m$^3$ (assessed against an Air Quality Assessment Level of 40µg/m$^3$). As confirmed in the DCC committee report (CD 5.02 p83), "*No complaints have been received by the Local Authority, the North Wales Minerals and Waste Planning Service, or the Quarry in regard to dust generated by any of the current operations at the quarry*".

3.13 To address the criticisms raised on behalf of DCC (CD 3.02) an updated 5-year average meteorological dataset was obtained from Rhyl, the closest and most representative recording station to the site. This shows the prevailing wind is from the southwest indicating that locations to the northeast would have the highest potential for impacts from any dust generated from the site. It should be noted that the closest residential receptors to the site are located to the south of the proposed extension, therefore upwind during prevailing conditions.

3.14 Results of assessment – $PM_{10}$, IAQM guidance states: "*If the long term background $PM_{10}$ concentration is less than 17µg/m$^3$ there is little risk that the Process Contribution (PC) would lead to an exceedance of the annual-mean objective and such a finding can be put forward qualitatively, without the need for further consideration, in most cases*".

3.15 Utilising the Defra background information, the maximum 2023 annual mean $PM_{10}$ concentration across the entire assessment area is 12.1µg/m³ and therefore less than 17µg/m³. It is also worth noting that the maximum period mean recorded during the 3-month monitoring period within the site was 13.4µg/m³ which again, is less than 17µg/m³.

3.16 The report therefore concludes that in the absence of additional mitigation, the impact on human health from emissions of $PM_{10}$ from site operations would be 'negligible', with the associated effect 'not significant'.

3.17 Results of assessment – Deposited Dust, consideration of the dust sources together with working practices and procedures (such as Blasting Impact Management Protocol), and environmental design/operational mitigation measures is used to determine 'source' emission magnitude element of the applied approach. Receptor distance and meteorological data is used to assess the 'pathway effectiveness' element of the applied approach at each receptor.

3.18 The final stage of the assessment in determining the magnitude of effect due to potential dust deposition from on-site activities at each receptor is to combine

the receptor sensitivity with the pathway effectiveness and dust impact risk in accordance with the IAQM guidance.

3.19 Using this method, the assessment concludes that the overall significance of potential dust effects is considered to be 'negligible' and 'not significant'.

3.20 Enzygo carried out a review of the SLR assessment (CD 4.11) and concludes "*The methodology and conclusions of the revised dust impact assessment are accepted. However, this is subject to the implementation of best practice dust control measures throughout the site and with a particular focus on blasting operations. These measures should be provided by means of planning condition requiring an agreed dust management plan and monitoring strategy*".

3.21 As referred to in para 2.3, the Statement of Common Ground includes a schedule of agreed conditions including Condition 26 requiring submission of a Dust Management, Monitoring and Mitigation Plan within 3-months of the date of permission and prior to operation of the quarry extension area. The Dust Management, Monitoring and Mitigation Plan will include planning enforceable commitments to embed dust control procedures into the quarry's working practice. I have attached as Appendix 1, an example Dust Action Plan for a limestone quarry which contains the elements which will be incorporated into satisfying agreed condition 26.

# 4. Consideration of Relevant National and Local Policies

4.1 Minerals Technical Advice Note 1: 'Aggregates' (MTAN1) seeks to protect amenity by establishing minimum buffer zones within which no new sensitive development or mineral extraction should be approved. MTAN 1 sets a minimum buffer distance for hard rock quarries at 200m.

4.2 The nearest residential property is located over 250m from the proposed extended quarry boundary and, therefore, outside the recommended buffer-zone specified in MTAN 1.

4.3 Similarly, Policy PSE16 – 'Mineral buffer zones' prevents sensitive development within buffer zones and advises that extensions to quarries will only be permitted where a suitable buffer can be retained and where it can be demonstrated that there is no unacceptable impact on the environment or human health.

4.4 Policy PSE17 – 'Future mineral extraction' restricts mineral extraction within Areas of Outstanding Natural Beauty (AONB) and where need can be demonstrated and requires inclusion of an appropriate buffer and must include measures to reduce the impact of dust.

4.5 In terms of Policies PSE16 and PSE17 of the Denbighshire Local Development Plan, the extension is located within the buffer zone of the existing quarry and the effect of granting permission would be to extend the buffer zone out to the

west. The width of this zone is 200m and the designation of a new area would not encroach on any existing sensitive uses but would prevent any such future development from taking place. The area within which the quarry buffer zone would extend is not allocated within the Denbighshire Local Development Plan.

4.6 I consider that the adjustment/relocation of the buffer area to accommodate the extension complies with the requirements of the Policy due to the distance that is being maintained from existing sensitive (residential) uses coupled with the lack of impacts. The extension is therefore not in conflict with these Policies.

4.7 Technical Advice Note 21 'Waste' – I consider that TAN21 only applies to where waste sites are to be located within/adjacent to quarries and is not wholly applicable to this application. Notwithstanding this, it advises that where a proposal is environmentally unacceptable or would cause impacts on amenity that cannot be mitigated to an acceptable standard by conditions, should be refused. There is no evidence, or previous history, to suggest that air quality or dust emissions associated with the proposed extension could cause unacceptable impacts upon amenity.

4.8 Development Management Manual (DMM) – in respect of amenity, the DMM requires that LPAs need to consider the effect of development on public amenity. Again, there is no evidence, or previous history, to suggest that air quality or dust could cause unacceptable impacts upon amenity. Furthermore, the submitted minerals dust assessment (CD 3.02) concludes mineral dust effects are 'not significant'

4.9 Planning Policy Wales 11 (including updated Chapter 6) – advises that where a proposal for mineral extraction would cause demonstrable harm to the environment, including designated sites, or amenity, which cannot be overcome by planning conditions or agreements, planning permission should not be granted. No demonstrable harm associated with air quality or dust impacts have been identified with the proposed quarry extension.

# 5. Review of Relevant Submitted Representations

## ENVIRONMENTAL PUBLIC HEALTH SERVICE WALES (EPHS)

5.1 Initially EPHS had some concerns due to the lack of detailed assessment regarding the impact of quarry operations on local air quality and were of the view that further dust impact assessment and data would be needed (CD4.01). In response, a further dust impact assessment has been undertaken (CD 3.02).

5.2 Following further consultation, EPHS have recommended that a Dust Management Plan is required so that the amenity of the local area, including nearest residential receptors, and the users of the nearby public footpath are not

affected. Correspondingly, Condition 26 has been included within the Statement of Common Ground requiring for submission of a Dust Management, Monitoring and Mitigation Plan.

## DENBIGHSHIRE COUNTY COUNCIL - Public Protection Officer

(outsourced to external consultant Enzygo Limited)

5.3 As referenced in para 3.6, Enzygo were commissioned to review the air quality and dust impact assessment (CD4.09 and CD4.11). Following the initial consideration, Enzygo recommended further dust assessment was undertaken.

5.4 On receipt of the further dust impact assessment, Enzygo have confirmed that with the existing and proposed mitigation measures, dust could be controlled to acceptable levels. A further recommendation was made for a planning condition to ensure that best practice dust management measures are employed on site under a dust management and monitoring strategy. Correspondingly, Condition 26 has been included within the Statement of Common Ground requiring for submission of a Dust Management, Monitoring and Mitigation Plan.

## 3rd Party (neighbour) representations

5.5 There are numerous (approximately 29) 3rd party public objections submitted as representations which refer to dust as a cause for concern as a risk to impacting future amenity or health of residents, and the impact of deposited dust on fauna / habitats. The submitted Dust Impact Assessment (CD3.02) concludes a ‘not significant’ effect from mineral dust on dust soiling, public health and ecological receptors.

5.6 Particular concern was raised regarding a perceived risk of silicosis to local residents. NHS Online advises silicosis is a long term lung disease caused by inhaling large amounts of crystalline dust, usually over many years. The HSE advise that it usually takes a number of years of regular daily exposure before there is a risk of developing silicosis. Silicosis is a disease that has only been seen in workers from industries where there is a significant exposure to silica dust, such as in quarries, foundries, the potteries etc. No cases of silicosis have been documented among members of the general public in Great Britain, indicating that environmental exposures to silica dust are not sufficiently high to cause this occupational disease. I do not therefore consider that silicosis risk is a matter for consideration by the planning authority.

# 6. Conclusions

6.1 A Dust Impact Assessment has been undertaken in support of a proposed consolidating application at Denbigh Quarry, which includes an extension to the winning and working of limestone. Operational phase road traffic emissions were screened out of the assessment as the development will not result in additional heavy good vehicle (HGV) movements above the current permission.

6.2 The assessment has accounted for comments received during critical appraisal of the Air Quality Chapter to the Environmental Statement which was submitted to support the 2022 planning application. It has been undertaken in line with appropriate IAQM minerals guidance and has considered the potential significance of effects on amenity, human health (from $PM_{10}$) and ecological receptors as a result of operations within the existing and proposed Site.

6.3 The proposed extension area would not be any closer to residential properties than existing operations and there is no history of dust complaints associated with the current site. Furthermore, dust monitoring indicates baseline concentrations which reflect the existing working quarry demonstrate period mean $PM_{10}$ concentrations represent less than 50% of the Air Quality Assessment Level.

6.4 The assessment has concluded that the effect on amenity from deposited dust, the effect on $PM_{10}$ concentrations at human receptors, and the effect from dust on ecological receptors are all considered to be ‘not significant’.

6.5 The content and conclusions to the submitted Dust Impact Assessment were reviewed and accepted by DCC’s independent consultant. The committee report (CD 5.02) indicates there is no objection in relation to air quality and states that the application has demonstrated that the operations could take place without causing unacceptable impacts on the environment or human health subject to the implementation of best practice dust control measures throughout the site provided by means of planning condition requiring an agreed dust management plan and monitoring strategy.

6.6 This is followed through in the SoCG, in which a condition has been agreed between Breedon Trading Ltd and DCC requiring the preparation and approval of a Dust Management and Monitoring Action Plan which results in this no longer being in dispute and agreement that there are no unacceptable amenity impacts from dust/air quality.

6.7 I conclude that there are no material reasons that in relation to air quality and dust, why the proposed extension to Denbigh Quarry should not proceed subject to the inclusion of appropriate agreed, planning conditions.

Appendix 1

# Cloud Hill Quarry

## Dust Action Plan

### Breedon Trading Limited

Prepared by:

**SLR Consulting Limited**

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SLR Project No.: 425.066179.00001

Client Reference No: UK.065590

8 November 2024

Revision: 1.0

## Revision Record

| Revision | Date | Prepared By | Checked By | Authorised By |
|---|---|---|---|---|
| 1.0 | 8 November 2024 | LB | MF | MF |

# Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Breedon Trading Limited (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

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# 1.0 Introduction

SLR Consulting Limited (SLR) has been commissioned by Breedon Trading Limited (Breedon) to prepare a revised Dust Action Plan (DAP) for Cloud Hill Quarry, Stocking Lane, Breedon on the Hill (the 'Site') to address Condition 15 of planning permission 2009/0940/07 granted by Leicestershire County Council (LCC) – the Mineral Planning Authority (MPA).

Condition 15 which relates to the DAP states the following:

> "*The monitoring and control of Dust at the application site shall be carried out in accordance with the Dust Action Plan dated February 2010. The Dust Action Plan shall be reviewed by the operator, in consultation with the Mineral Planning Authority, at 2 yearly intervals from the date of this permission and any revisions deemed appropriate shall be submitted to the Mineral Planning Authority for formal approval in writing. The scheme as further approved shall be implemented in full.*"

## 1.1 Overview and Structure of the DAP

In accordance with Condition 15, a review of the DAP has been undertaken and this document presents the revised version. It sets out the dust controls and operational procedures to manage potential environmental impacts that could arise from the generation of dust emissions on Site.

This version of the DAP represents the situation in November 2024.

The components of the DAP are set out as follows:

- Section 2.0 – Baseline and Potential for Dust Impact;
- Section 3.0 – Dust Control and Monitoring;
- Section 4.0 – Management;
- Section 5.0 – Contingency Action Plan.

# 2.0 Baseline and Potential for Dust Impact

## 2.1 Site Surroundings

The Site is located approximately 6km to the northeast of Ashby-de-la-Zouch, Leicestershire, and centred on the approximate National Grid Reference (NGR) x441225, y321430.

The surrounding uses of the Site are predominantly agricultural, with intermittent features such as woodland. There are isolated residential properties in the area, and the settlements of Worthington and Breedon on the Hill are located within 1km of the Site. The Site and surrounding locale are presented in Figure 2-1.

## 2.2 Sensitive Receptors

The Institute of Air Quality Management (IAQM) guidance[1] uses distance-based screening criteria for both airborne concentrations and deposited dust. It states that disamenity dust impacts from hard rock quarries (limestone) are considered to occur mainly within 400m of the operations:

> "*From the experience of the Working Group, adverse dust impacts […] are uncommon […] beyond 400m from hard rock quarries measured from the nearest dust generating activities.*"

A review of the Site locale (November 2024) identified receptors within 400m of the Site boundary.

### 2.2.1 Human Receptors

Identified human receptors within the immediate Site locale are outlined below in Table 2-1 and locations are presented in Figure 2-1.

**Table 2-1: Identified Sensitive Human Receptors**

| ID. | Receptor | IAQM Sensitivity to Dust | Approx. Distance to Site (m) |
|---|---|---|---|
| HR1 | Mill House Farm | High | 140 |
| HR2 | Manor Drive | High | 205 |
| HR3 | No. 4 Manor Drive | High | 280 |
| HR4 | Worthington School | High | 330 |
| HR5 | Charity Farm | High | 350 |
| HR6 | Stables | Medium | 120 |
| HR7 | Station House | High | 310 |
| HR8 | Cloud Hill Trail Car Park | Medium | 165 |
| HR9 | Footpath | Low | 30 |
| HR10 | Footpath | Low | 280 |

[1] IAQM, Guidance on the Assessment of Mineral Dust Impacts for Planning, May 2016 v1.1.

### 2.2.2 Ecological Receptors

The following ecological designations are located within 400m of the Site:

- Breedon Cloud Wood and Quarry Site of Special Scientific Interest (SSSI). The SSSI unit (No. 1) located within the Site is the Quarry element, designated for earth heritage interest and therefore not relevant for dust impacts.
- Breedon Cloud Wood Ancient Woodland (AW).

The designated sites have been represented with the use of discrete receptor locations, as presented in Table 2-2 and illustrated in Figure 2-1.

**Table 2-2: Identified Sensitive Ecological Receptors**

| ID. | Receptor | IAQM Sensitivity to Dust | Approx. Distance to Site (m) |
|---|---|---|---|
| ER1 | SSSI (Unit 3) | Medium | 30 |
| ER2 | SSSI (Unit 4) | Medium | 40 |
| ER3 | SSSI (Unit 2) / AW | Medium | 65 |
| ER4 | SSSI (Unit 2) / AW | Medium | 80 |
| ER5 | SSSI (Unit 2) / AW | Medium | 75 |

## 2.3 Baseline Air Quality

Defra maintains a nationwide model of existing and future background air quality concentrations at a 1km grid square resolution. The data sets include annual average concentration estimates for $PM_{10}$ using a base year of 2018 (the year in which comparisons between modelled and monitored concentrations are made).

The Defra mapped background concentrations for the current year (2024) are presented in Table 2-3 for the grid squares which cover the Site.

**Table 2-3: Defra Mapped Background Pollutant Concentrations**

| Grid Square (X, Y) (m) | 2024 Annual Mean $PM_{10}$ Concentration (µg/m$^3$) |
|---|---|
| 440500, 320500 | 13.5 |
| 440500, 321500 | 15.2 |
| 440500, 322500 | 13.8 |
| 441500, 320500 | 12.7 |
| 441500, 321500 | 13.8 |
| 441500, 322500 | 15.6 |
| ***Air Quality Objective*** | ***40*** |

With respect to suspended dust ($PM_{10}$), if backgrounds are less than 17µg/m$^3$, it is considered there is little risk of exceedances of the $PM_{10}$ air quality objectives due to Site activities. The mapped $PM_{10}$ background concentrations presented are <17µg/m$^3$ and 'well-below' the annual mean objective and the risk of exceedances are therefore considered low.

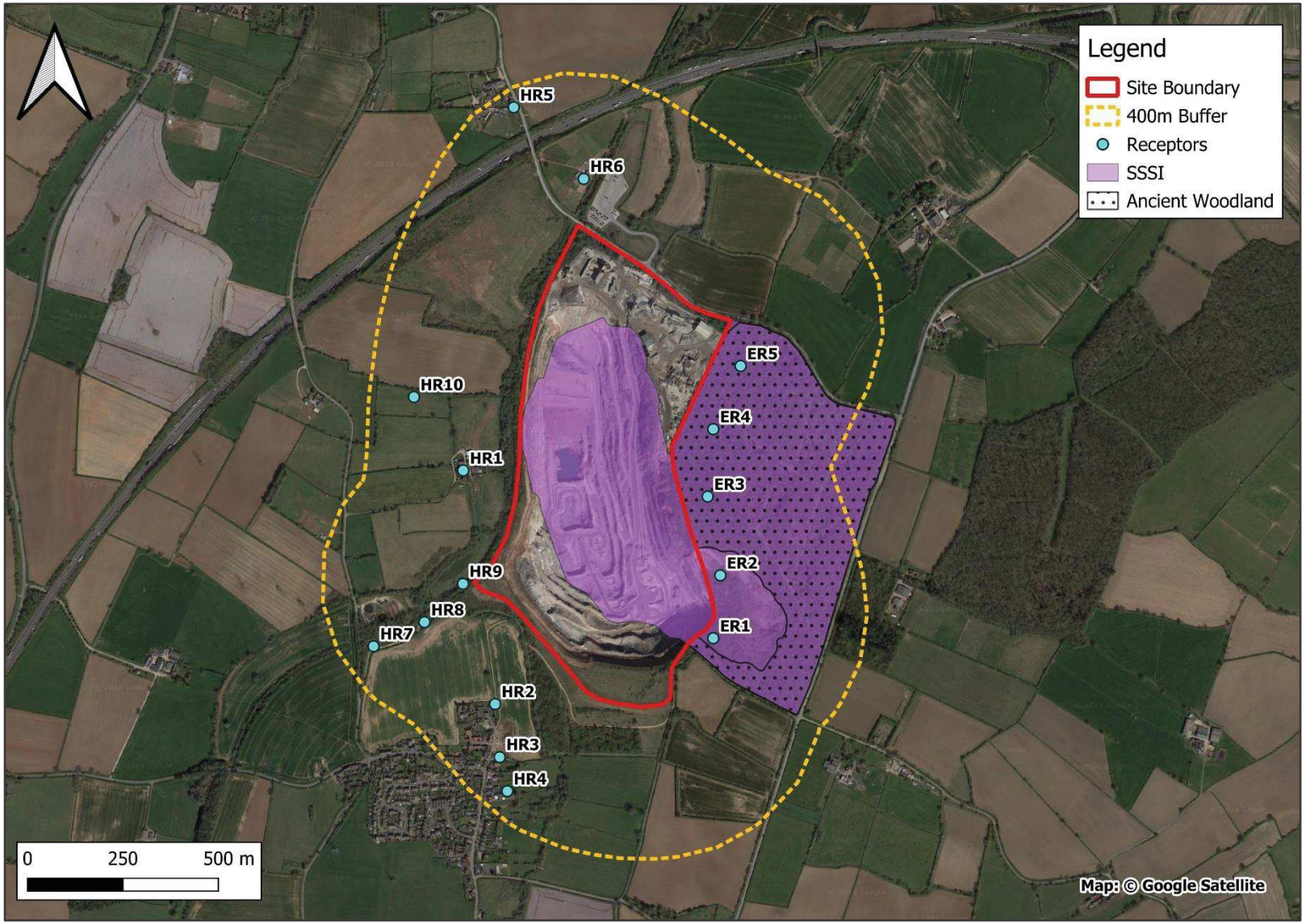


**Figure 2-1: Site Location and Sensitive Receptors**

## 2.4 Meteorological Conditions

The most important climatic parameters governing the release and dispersal of fugitive emissions from the Site are wind speed, direction and rainfall:

- Wind direction determines the broad direction of dispersal;
- Wind speed affects the potential for dust entrainment; and
- Rainfall naturally supresses dust release (>0.2mm rainfall per day is considered sufficient to suppress dust emissions).

### 2.4.1 Local Wind Speed and Direction Data

Wind speed and direction data from the East Midlands Airport meteorological observation station, located approximately 5.3km northeast of the Site, is considered representative of local Site conditions. A windrose is presented in Figure 2-2. It is apparent that the predominant wind direction is from the southwest.

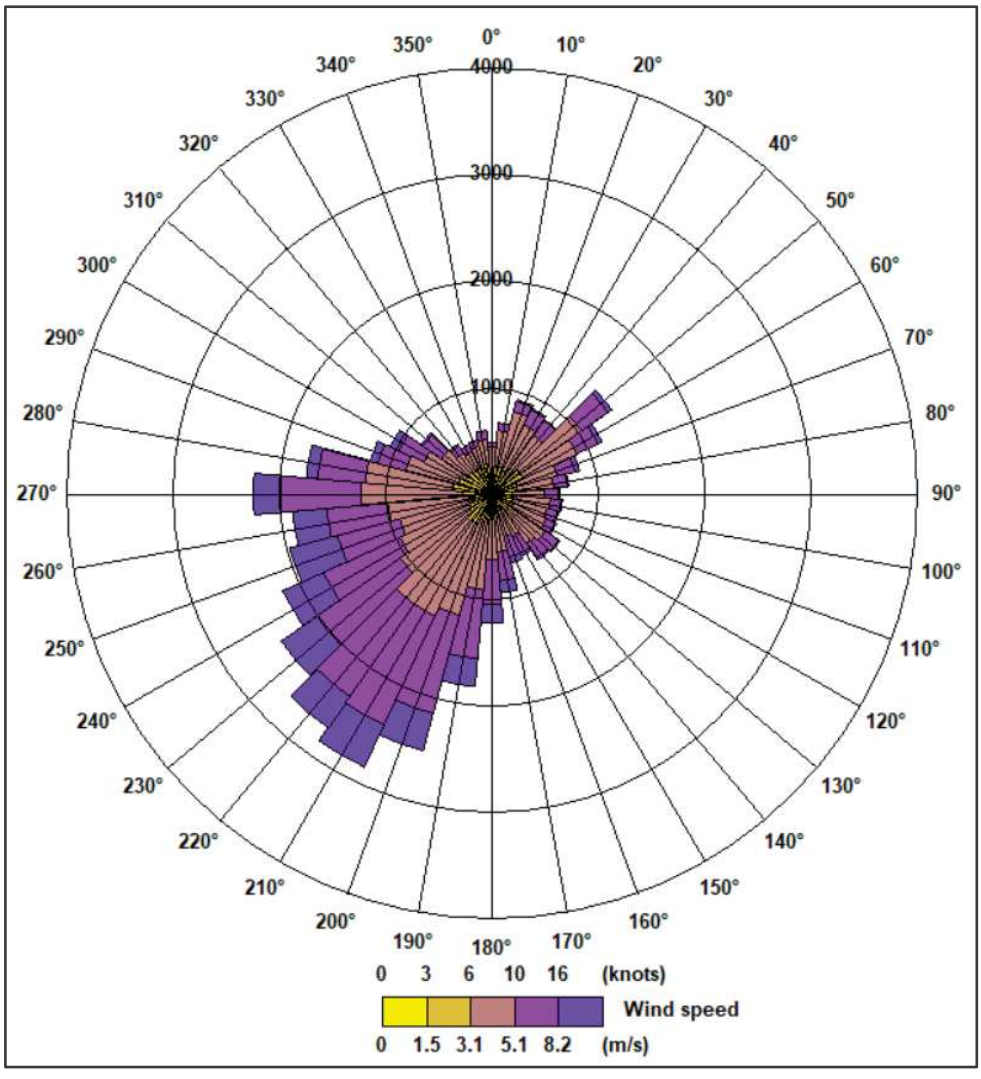


**Figure 2-2: Windrose for East Midlands Airport (2018 – 2022)**

### 2.4.2 Rainfall Data

Relevant rainfall data applicable to the Site has been obtained from the Met Office website[2] of UK mapped climate averages for 1991-2020. The average annual rainfall >0.2mm/day for the area is 160 to 170 days per year, comprising an average 45% of the year. On those days, it is considered that the natural suppression afforded by the rain would eliminate sources of dust across the Site.

Rainfall is typically lower in the summer months, combined with higher temperatures to reduce the drying time of material. The potential for dust generation and subsequent transfer of airborne dust emissions beyond the Site boundary is therefore higher during the summer months.

## 2.5 Identification of Dust Sources

### 2.5.1 Process Description

Quarrying activities are ongoing in the southern area of the Site, which was an extension to the original quarry. The working scheme of the southern extension area is split into three main phases, 1 to 3.

Phase 2 is ongoing which sees the working of mineral in the south of the Site. A total of approximately 3.4 million tonnes of limestone is to be extracted in Phase 2.

Phase 3 is a progression of this, whereby an area of overburden is removed to further expose the quarry face. The workings would be advanced to their final projected limits and levels. A total of approximately 9.255 million tonnes of limestone is likely to be extracted in Phase 3.

In terms of general practices at the Site, soils and overburden are stripped using a hydraulic excavator (or similar) to expose the underlying rock. This material is utilised to construct perimeter screening mounds, stored within the northern overburden tip, or used directly in restoration. Screening mounds are typically placed between operations and sensitive off-site receptors to disrupt wind flow and encourage the deposition of any dust emissions within the Site.

Drilling with subsequent blasting is required to loosen the rock. “As dug” mineral is loaded into dump trucks for transfer to the on-site conveyor at the base of the quarry, once loaded the conveyor transport material to the plant site for processing.

The plant site is in the northern extent of the Site and contains the following fixed processing plant: primary crusher, screen house, washing plant, scalpings plant, concrete plant, and asphalt plant. A large proportion of these processes occur wet, therefore reducing the dust emission potential. Product would be delivered wet to storage stockpiles in the plant site prior to export off-site to the point of sale.

The operational hours of the Site are Monday to Friday, 07:00 – 18:00.

### 2.5.2 Identification of Dust Sources

The potential activities or sources of dust generation at the Site are summarised in Table 2-4.

[2] http://www.metoffice.gov.uk/public/weather/climate, accessed October 2024.

**Table 2-4: Sources of Dust**

| Activity | Comments |
|---|---|
| Site Preparation and Restoration (Bunds / Soils / Overburden) | Temporary, intermittent operation.<br>Overburden tip in the north of Site located within the void.<br>Southern overburden screening bank encloses the working area.<br>Stored soils and overburden seeded.<br>Water suppression used, if appropriate.<br>Progressive use of material in restoration where possible. |
| Mineral Extraction | Drilling and blasting required.<br>Dust collectors fitted to drilling rigs.<br>Water bowser available for dust suppression, as required.<br>Typically, 5 mobile plant active – 2 excavators, 3 dump trucks. |
| Plant Site – Mineral Processing / Stockpiling | Water suppression used, as required.<br>Daily material transfers from stockpiles within the plant site.<br>Typically, 5 items of mobile plant active in the plant site – 2 front end loaders, 3 dump trucks.<br>Fixed processing plant units.<br>Two HGV loadouts fitted with designed-in dust suppression.<br>Plant site is partially asphalted. |
| Transport – Internal | Conveyor from the base of the quarry to the plant site minimises the need for transport using dump trucks.<br>Conveyor through the Site is covered.<br>Set internal haul roads.<br>Water suppression used, as required.<br>Speed limit of 15mph. |
| Transport – Access Road (trackout) | Wheel wash used by all HGVs leaving Site.<br>Tarmacked access road leads into the plant site.<br>Road sweeper used daily on the access road.<br>Speed limit of 15mph.<br>Average 250-300 HGV movements per working day. |

## 2.6 Analysis of Potential Dust Effects

The IAQM guidance sets out a methodology for the assessment of dust effects. This is a risk-based approach based on the source-pathway-receptor conceptual model, i.e. the hypothetical relationship between the source (S) of the pollutant, the pathway (P) by which exposure might occur, and the receptor (R) that could be adversely affected.

These principles have been used to inform the likelihood of adverse effects occurring at the identified receptor locations. This analysis is summarised in Table 2-5.

Adverse dust effects from Site activities are generally considered unlikely, based on the designed-in dust mitigation measures and the information presented in Table 2-5, as summarised by the following points:

**Human receptors:**

- There are no high sensitivity human receptors located ‘close’ to the Site (i.e. <100m);

- Most of the high sensitivity receptors are located upwind of extraction areas. In addition, these activities are generally located within the quarry void and additionally screened by the southern screening bank; and
- Receptors potentially downwind of activities (e.g. HR1, HR5 and HR6) are afforded protection by vegetation and/or woodland which acts as a physical barrier to dust.

**Ecological receptors:**

- There are no high sensitivity ecological receptors located ‘close’ to the Site (i.e. <100m);
- There are designated ecological sites located downwind of extraction activities, however these activities are within the quarry void and therefore sheltered, preventing dust wind-generated dust and limiting dispersion of mechanically generated dust; and
- There are designated ecological sites located downwind of the plant site, however it is considered that dust controls implemented in the plant site would be effective to minimise dust emissions. Further, a large proportion of the processing is wet and therefore the products are delivered wet to storage stockpiles.

**Table 2-5: Analysis of Potential Dust Effects**

| ID. | Approx. Distance to Site Boundary (m) | IAQM Distance Category | Receptor Sensitivity | Comments |
|---|---|---|---|---|
| **Human** | | | | |
| HR1 | 140 | Intermediate | High | Receptor location northwest of extraction areas, partially downwind. Natural vegetation between the Site and receptor. Adverse effects unlikely, or only in certain conditions. |
| HR2 | 205 | Distant | High | Receptor located south of the Site, therefore upwind. Distant from Site. Adverse effects unlikely. |
| HR3 | 280 | Distant | High | |
| HR4 | 330 | Distant | High | |
| HR5 | 350 | Distant | High | Receptor located northwest of the Site. Distant from the Site with natural vegetation in between. Adverse effects unlikely. |
| HR6 | 120 | Intermediate | Medium | Receptor located north of the Site (nearest to the plant site), therefore downwind. Vegetation/woodland between the Site and receptor would act as a physical barrier to any dust emissions. Adverse effects unlikely. |
| HR7 | 310 | Distant | High | Receptor located southwest of the Site, therefore upwind. Adverse effects unlikely. |
| HR8 | 165 | Intermediate | Medium | Receptor located southwest of the Site, therefore upwind. Car park receptor and therefore exposure not continuous. Adverse effects unlikely. |
| HR9 | 30 | Close | Low | Receptor located close to the Site. Footpath receptor and therefore exposure is transient. Adverse effects unlikely. |
| HR10 | 280 | Distant | Low | Receptor located west of the Site, therefore upwind. Footpath receptor and therefore exposure is transient. Adverse effects unlikely. |
| **Ecological** | | | | |
| ER1 | 30 | Close | Medium | Receptor located east of the Site, therefore downwind. Quarry activities are within the void. Adverse effects unlikely. |
| ER2 | 40 | Close | Medium | |
| ER3 | 65 | Close | Medium | |

| ID. | Approx. Distance to Site Boundary (m) | IAQM Distance Category | Receptor Sensitivity | Comments |
|---|---|---|---|---|
| ER4 | 80 | Close | Medium | Receptor located east of the Site (nearest to the plant site), therefore downwind. Adverse effects unlikely providing dust controls are effectively implemented in the plant site. |
| ER5 | 75 | Close | Medium | |

# 3.0 Dust Control and Monitoring

Measures for minimising, controlling and monitoring dust emissions from the Site are outlined in this section.

## 3.1 Overview

The key method of controlling dust emissions is through good Site design, management practices and subsequent good housekeeping, i.e. 'avoidance' is the key method for controlling dust emissions.

The control hierarchy[3] has been based on:

- Good operating and management practices to avoid emissions arising from activities;
- Good process design or revision to minimise emissions;
- Abatement or control to reduce dust emissions, e.g. use of mobile dust suppression units and sprays; and
- Disrupting the emission pathway to sensitive receptors, i.e. screening receptors (e.g. locating stockpiles in sheltered areas as far as practicable).

## 3.2 Dust Control Measures

Breedon recognises the potential for the Site to generate dust emissions and is committed to operating the Site in accordance with industry best practice. The dust control measures implemented as part of routine operations are presented in Table 3-1.

**Table 3-1: Dust Control Measures**

| Activity | Description |
|---|---|
| Soil Removal, Handling and Storage Operations | Should dust emissions be generated in period of extreme dry / windy weather conditions, then water suppression would be facilitated on site using mobile bowser units.<br>Soils and overburden placed on temporary storage mounds or screening bunds will be seeded as soon as practicable to prevent the generation of dust emissions.<br>Soil handling will be restricted in adverse weather conditions.<br>Access to storage areas or the base of screening bunds by machinery will be restricted other than for the purposes of mound construction and maintenance.<br>Overburden and soil removal activities will be planned to take into consideration seasonal weather variations and seeding seasons for the planting of screening bunds / mounds.<br>Double handling of stripped materials will be minimised wherever possible. |

[3] Report to The Mineral Industry Research Organisation (MIRO), Good practice guide: control and measurement of nuisance dust and $PM_{10}$ from the extractive industries. AEAT/ENV/R3140 Issue 1, February 2011.

| Activity | Description |
|---|---|
| Drilling and Blasting | Dust collectors will be fitted to all drilling rigs.<br>Blasting will be controlled to minimise the potential for excessive breakage and fly rock and thus reduce dust emissions.<br>Quarry manager to review (case by case) restriction to blasting operations on the upper benches in dry, windy conditions when there is an elevated risk of dust propagation over the site boundary towards sensitive receptors. |
| Mineral Extraction including loading and tipping | When the material is dry then where practicable, the use of water spray systems would be considered to dampening of materials.<br>In dry and windy conditions, the extraction of mineral from the top benches might be restricted until weather conditions have changed.<br>Drop height for materials being loaded and unloaded by plant will be kept to a minimum. Material handling will be kept to a minimum and such activities retained within the excavation void.<br>All active internal haul roads will be managed in accordance with the below section. |
| Internal Haul Roads | A vehicle speed restriction of 15mph will be imposed for all vehicles driving on the site.<br>During dry conditions, appropriate dust suppression techniques will be employed on internal haulage roads. The technique to be utilised on site will be a mobile bowser spray unit.<br>Haul roads will be well maintained and compacted, to minimise spillages from vehicles and dust emissions from loose and uneven surfaces.<br>Haul roads will be designed to avoid sharp corners and steep gradients where practicable that would encourage sharp braking. |
| Quarry Processing and Transportation | All paved internal haul roads will be periodically sprayed (using a water bowser) and swept (using a road sweeper) as necessary.<br>Fixed cladding is inspected, cleaned and repaired as a matter of routine. As a general measure any loose deposits will be removed, and any gaps or other damage will be repaired promptly.<br>Rubber sealing strips to the conveyor entries and exits to each process building will be inspected and maintained as necessary.<br>Existing dust control measures on each process building will be inspected and maintained as necessary.<br>As a general measure the throughput of the crushing and screening plant (including mobile plant) will be kept within the capacity of the plant to minimise spillages. |

| Activity | Description |
|---|---|
| Materials handling (including conveyors), aggregates stocking and road transport | There is an ongoing programme of repair and renewal for conveyor roofing sheets and any damage or missing sheets will be replaced promptly.<br>Shrouding has been fitted to any transfer points and conveyor discharges where visible dust emissions are identified.<br>A maintenance programme of cleaning for the conveyor system from the quarry to the primary crusher and also with the other conveyors located around the plant site, with emergency cleaning on demand if necessary.<br>All external conveyors (including shrouds) will be inspected weekly. Records of the findings, and of any actions required and taken, will be kept in the site logbook.<br>Material stocking areas will be periodically sprayed during dry and adverse weather conditions.<br>The surfaces of stockpiles will be managed to maintain a smooth profile and to minimise the spreading of loose materials throughout the stocking ground.<br>Any spillages or accumulations of loose material in the plant site area will be cleared promptly.<br>All HGVs carrying aggregates into or out of the site shall be securely sheeted.<br>All departing transport will pass through the wheel-wash and will then be inspected for cleanliness by driver. |

### 3.2.1 Dust Abatement Equipment

To summarise, the Site employs the following dust abatement equipment:

- Wheel wash – The wheel-wash will be maintained in effective working order;
- Road sweeper – A road sweeper is employed daily on the access road;
- Mobile dust suppression unit – water bowser unit is available and will be maintained in effective working order and deployed as and when required to suppress dust; and
- Both HGV loadouts are fitted with designed-in dust suppression.

## 3.3 Monitoring

### 3.3.1 Meteorological Conditions

During Site activities, weather forecasts shall be monitored on a daily basis to predict and observe weather conditions and trends such as prolonged dry, hot spells or significantly strong winds which may generate elevated levels of dust. Using this information, the necessary measures and dust controls shall be planned / prepared or employed on Site.

This information would be recorded on a daily basis within the Site log book or electronic system (an example record sheet in Appendix A), and is beneficial when dust events / complaints are reviewed retrospectively, and the source of dust is investigated.

### 3.3.2 Visual Dust Monitoring

The Quarry Manager (or Assistant Quarry Manager or Site operative) shall undertake regular visual monitoring to ensure that dust control techniques in operation are being carried out effectively. The objective of the visual monitoring is to anticipate whether dust is being transported off-site in quantities sufficient to potentially cause annoyance at off-site receptor locations.

Visual monitoring is undertaken on a daily basis to allow the necessary action to be taken. Responsibilities can be delegated to various Site operatives to carry out visual observations of their working areas during normal operations or be delegated to a single operative to perform visual checks of key areas.

The areas that require consideration during the visual observations include those where dust generating activities are located within 100m of the Site boundary, and inspection of the access road and public highway for signs of trackout.

Any personnel who undertake visual dust monitoring will have received appropriate training, guidance and instruction on how to carry out the task in line with the requirements of this DAP.

Results of the visual observations shall be recorded in the Site log book or electronic system (an example pro-forma is included within Appendix B). The following details shall be noted:

- Location of observation;
- Weather conditions (rainfall, wind speed, wind direction);
- Current Site activities;
- Identification of any visible dust emissions travelling beyond the Site boundary; and
- Details of any remedial action undertaken as a result.

The frequency of visual monitoring would increase in the following scenarios:

- Observations detect significant dust plumes crossing the Site boundary towards off-site receptors;
- Monitoring of meteorological conditions identifies a prolonged dry, warm spell;
- Site operatives inform the Quarry Manager of significant dust emissions close to the Site boundary; or
- In response to a complaint being received to the Site, or MPA.

### 3.3.3 Quantitative Dust Monitoring

The Site employs a program of quantitative monitoring of dust deposition, for the purposes of protecting amenity of local receptors.

Dust monitoring is carried out using a Frisbee deposition gauge, identified as the preferred method within the Environment Agency (EA) M17 guidance note[4].

The dust deposition samples are collected monthly in line with the program and sent to a UKAS accredited laboratory and analysed for the following:

- Mass of dissolved and undissolved solids to determine deposition rate as mg/m$^2$/day using Method No. FD01: *The determination of Fugitive Dust* based on BS 872:2005 (mass of dust (mg) is the UKAS accredited test).

If required, source apportionment would be undertaken by compositional analysis to characterise the dust particles and verify the dust source (i.e. whether from the Site or not).

[4] Environment Agency, Technical Guidance Note (Monitoring) M17, Monitoring Particulate Matter in Ambient Air around Waste Facilities, Version 2, July 2013.

#### 3.3.3.1 Reporting and Assessment Criteria

The monitoring results would be compared to the following benchmarks for the protection of amenity, as stated in the M17 guidance note:

- The nuisance dust deposition rate of 200mg/m$^2$/day (averaged over a monthly period) is used. However, the Site applies a reduced trigger level of 180mg/m$^2$/day.

The dust monitoring results would be sent to the MPA on request and would be retained by Breedon for a minimum of two years.

Dust deposition results would be presented in a tabular format, similar to as shown in Table 3-2.

**Table 3-2: Example Dust Deposition Results [xxx] to [xxx]**

| Frisbee Gauge | Maximum Deposition Rate (mg/m$^2$/day) | Average Deposition Rate (mg/m$^2$/day) |
|---|---|---|
| Example – FG XX | 110 | 56 |
| Example – FG XX | 72 | 50 |
| Example – FG XX | 56 | 42 |

#### 3.3.3.2 Monitoring Locations

A frisbee gauge monitor is located at Worthington Primary School, which is considered representative of the receptors of Worthington village.

#### 3.3.3.3 Responses and Outcomes

Any exceedances of the benchmarks outlined in Section 3.3.3.1 during the monitoring period will be investigated, and the contingency action plan implemented as per Table 5-1.

The Site's current practices and procedures in relation to monitoring have proven to be sufficient, and no complaints in relation to dust have been received in the past three years.

# 4.0 Management

## 4.1 Site Management Responsibilities

There shall be a Quarry Manager or Assistant Quarry Manager on Site during working hours responsible for dust management and visual observations. Contact details as follows:

- Neil Gamble – Quarry Manager, Tel. 07968 298823.
- Olly Hunt – Assistant Quarry Manager, Tel. 07980 937941.

They are responsible for ensuring effective dust control is achieved, and have the following dust management responsibilities:

- Monitoring weather forecasts and current conditions on Site;
- Coordinating routine visual observation monitoring;
- Responding to potential and actual dust monitoring issues;
- Coordination of the application of water dust suppression;
- Completion of dust event forms;
- Preparing for the implementation of contingency action plans;
- Activation of contingency action plans;
- Liaison with the public and regulator;
- Coordinating reviews and updates of the DAP;
- Identifying and monitoring the intensity of activities with a high potential for dust generation; and
- Ceasing operations in the event that significant off-site impacts cannot be avoided.

Specific tasks and actions can be delegated to specific Site personnel to contribute towards the above responsibilities.

## 4.2 Training

All personnel on Site shall understand their responsibility to ensure the generation of dust is avoided, minimised and controlled. Each employee shall be made aware of the importance of effective dust control and the most effective measures available to minimise such emissions from the various activities. Such training shall be provided as part of the induction process for all new employees.

Specific training will be provided to:

- Operatives in use of the water suppression techniques, and visual monitoring; and
- All Site personnel on the importance of reporting potential / actual dust emissions or the malfunctioning of dust controls to the appropriate person.

Inductions for all new employees will include information on the following:

- Potential sources of dust;
- The DAP, monitoring program and planning conditions;
- Speed limits on Site; and
- Contact information for who to report any issues in relation to dust emissions.

## 4.3 Procedures

### 4.3.1 Dust Complaints

Complaints may be notified by a member of the public either directly to the Site management or indirectly through the MPA. Complaints received directly will be recorded in the Site log book or electronic system and reported to the MPA on request. The following details shall be recorded:

- Date, time and name of complainant (if provided);
- Nature of complaint;
- Locality of complaint;
- Summary of resulting investigations and actions taken; and
- Date at which the complainant was updated with the outcome / remedial actions undertaken, if required.

The objective of this response to complaints is to investigate the incident and review the Site practises and dust controls in place at the time of the event to allow for additional controls to be put in place, thus preventing a repeat of the incident. If necessary, the complainant(s) and the MPA would be informed of the findings of the investigation and any actions subsequently taken.

Investigations will include, but not be limited to the following:

- Visit by a member of Site management to location of complainant to verify the issue (if complaint is made after the event this may not be possible);
- A review of Site activities in operation at the time of the incident;
- A review of the dust monitoring results for the period of the incident, if applicable;
- For recurring events, the frequency of visual monitoring should be increased;
- A review of control measures and dust suppression in place at the time of the incident (i.e. application of water, frequency of water suppression on internal haul routes, drop heights during transfer);
- A review of the meteorological conditions at the time of the incident (i.e. recorded wind direction and wind speed recorded in the Site log book); and
- Reporting of findings in the Site log book or electronic system (an example pro-forma is included in Appendix B).

### 4.3.2 Incident Reporting

Incidents and observations of significant dust generation in proximity to the Site boundary shall be reported and recorded in the Site log book or electronic system (an example pro-forma is included in Appendix B). Any incidents that have resulted in significant dust issues off-site shall be reported to the MPA on request.

### 4.3.3 Liaison with Community and Regulators

The Quarry Manager (or nominated representative) shall act as liaison with the MPA and local community for issues relating to dust emissions off-site. Maintaining good communications with the local community will help to alleviate any concerns that may occur.

Key issues can be communicated between both sides, including but not limited to the following:

- Update on the working scheme of the Site and when / where future operations will be;
- Summary of the dust controls on Site and any updates / improvements undertaken / planned;
- Provision of a contact for the Site should any issues arise between the meetings; and
- Observe and alleviate any concerns or complaints members of the public have experienced.

### 4.3.4 Record Keeping

The operator shall keep records of all dust monitoring, dust contingency action investigations and complaints on Site for a minimum period of 2 years; these shall be made available to the MPA for examination on request.

## 4.4 DAP Update and Review

This DAP is an active, controlled document which forms part of the Site management documentation. It shall be reviewed on a periodic basis. Given that the document is a point of reference for daily operations, it shall be updated as required should any of the following situations occur:

- Significant changes are made to the Site or operational practises;
- The regulator specifically requests for the DAP to be updated; or
- Following investigations into dust control, additional measures are adopted that are not contained within the document.



# 5.0 Contingency Action Plan

A contingency action plan has been defined to react to situations whereby visual dust monitoring indicates that a potential dust source is not being mitigated effectively, appropriate control measures are not in place or that an adverse impact has or may occur.

This includes incidents or accidents which would result in the loss of control of potential dust sources and have the potential to cause an unacceptable impact on the environment. The contingency action plan therefore includes both pro-active and re-active actions to events.

Contingency measures have been identified for the following scenarios, as presented in Table 5-1.

- Change in wind direction (strong winds) towards nearby off-site receptors;
- Visual monitoring records visible dust plumes across the Site boundary in the direction of off-site receptors;
- Dust deposition monitoring indicates either unusually high levels or exceedances of the trigger level;
- Malfunction of water suppression techniques, rendering them ineffective;
- Malfunction of wheel wash, rendering it ineffective;
- Malfunction of road sweeper, rendering it ineffective; and
- Complaints received from members of the public or neighbouring businesses, verified by visual monitoring on Site.

**Table 5-1: Contingency Measures**

| Event | Change in wind direction (strong winds) towards off-site receptors |
|---|---|
| Contingency Actions | • Increase frequency of visual monitoring, incorporating walkovers along boundary in question;<br>• Implement additional dust suppression on high-risk activities using water sprays, reduction in drop heights or cessation of material handling / transfer; and<br>• In the event that dust is visually observed to be crossing the boundary with additional dust suppression in place, relocate or cease any activities until more effective mitigation is in place. |
| Comment | • Ensure weather forecasts are monitored; and<br>• Inform Site management, and record actions in Site log book. |
| **Event** | **Visual monitoring records visible dust plumes across the Site boundary in the direction of off-site receptors** |
| Contingency Actions | • Increase frequency of visual monitoring, incorporating a walkover along the boundary in question;<br>• Determine wind direction;<br>• Determine likely dust source and implement additional dust suppression, e.g.<br>  ○ Increased frequency of water suppression on internal haul routes;<br>  ○ Commence water suppression on material; and<br>  ○ If additional dust suppression not effective, relocate activity or cease operations until dust can be satisfactorily controlled. |
| Comment | • Ensure water supply is available for high-risk activities; and<br>• Inform Site management, and record actions in Site log book. |

| Event | Dust deposition monitoring indicates either unusually high levels or exceedances of the trigger level |
|---|---|
| Contingency Actions | • Investigate potential source of elevated emissions, e.g. review Site log book and activities being undertaken during monitoring period, meteorological conditions, and control measures being employed;<br>• Implement remedial actions; and<br>• Check effectiveness of actions. |
| Comment | • If investigations result in an update to control measures, the DAP should be updated. |
| **Event** | **Malfunction of water suppression techniques, rendering them ineffective** |
| Contingency Actions | • Undertake repairs using on-site spares if possible, or call out technician to repair at earliest opportunity;<br>• Increase frequency of visual monitoring, incorporating a walkover of all the boundaries; and<br>• Manual water application, if required;<br>• If dust emissions cannot be controlled and off-site impacts are considered likely, relocate activity or cease operations until dust can be satisfactorily controlled. |
| Comment | • Essential spares to be retained on-site;<br>• Manual water application to be available on-site; and<br>• Inform Site management, and record actions in Site log book. |
| **Event** | **Malfunction of wheel wash, rendering it ineffective** |
| Contingency Actions | • Notify management of malfunction so repairs can be made, or an engineer called out;<br>• Use manual hosing as required on vehicles;<br>• Use road sweeper more frequently on access road; and<br>• If mud is being tracked out onto the public highway in quantities likely to be a nuisance or a danger, then cease exports until effective wheel washing is reinstated. |
| Comment | • Essential spares to wheel wash should be retained on Site; and<br>• Record details in Site log book. |
| **Event** | **Malfunction of road sweeper, rendering it ineffective** |
| Contingency Actions | • Undertake repairs using on-site spares if possible, or call out technician to repair at earliest opportunity;<br>• Ensure water bowser is available and use as an alternative in the short-term;<br>• If the above is not successful, review the requirement to hire a mobile unit; and<br>• Increase frequency of visual monitoring near the Site access road for signs of trackout. |
| Comment | • Essential spares to be retained on Site; and<br>• Inform Site management, and record actions in Site log book. |



| Event | Complaints received from members of the public or neighbouring businesses, verified by visual monitoring |
|---|---|
| Contingency Actions | • Notify management;<br>• Follow complaint reporting and investigation procedure and identify appropriate contingency measures; and<br>• Increase frequency of visual monitoring, focusing on boundary locations in proximity to the location of complainants. |
| Comment | • Record actions in Site log book (or Appendix B pro-forma); and<br>• DAP may require updating depending on the results of investigations. |

# Appendix A Example Meteorological Condition Record Sheet

## Cloud Hill Quarry

### Dust Action Plan

### Breedon Trading Limited

SLR Project No.: 425.066179.00001

8 November 2024

| Date | Initials of Author | Predominant Wind Direction | Wind Speed (Beaufort scale) | Rainfall | Areas of Working | Additional Comments (on- and off-site) |
|---|---|---|---|---|---|---|
| *11/02/17*<br>*Example* | *AB* | *W – NW* | *1-2*<br>*Light air – light breeze* | *Dry* | *Topsoil Stripping* | *Agricultural operations in field adjacent to Site active with visible dust emissions* |
| | | | | | | |
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**Beaufort Scale Definitions:**

0 – Calm

1 – Light air

2 – Light breeze

3 – Gentle breeze

4 – Moderate breeze

5 – Fresh breeze

6 – Strong breeze

7 – Near gale

8 – Gale

9 – Strong gale

10 – Storm

# Appendix B Example Dust Event Form

## Cloud Hill Quarry

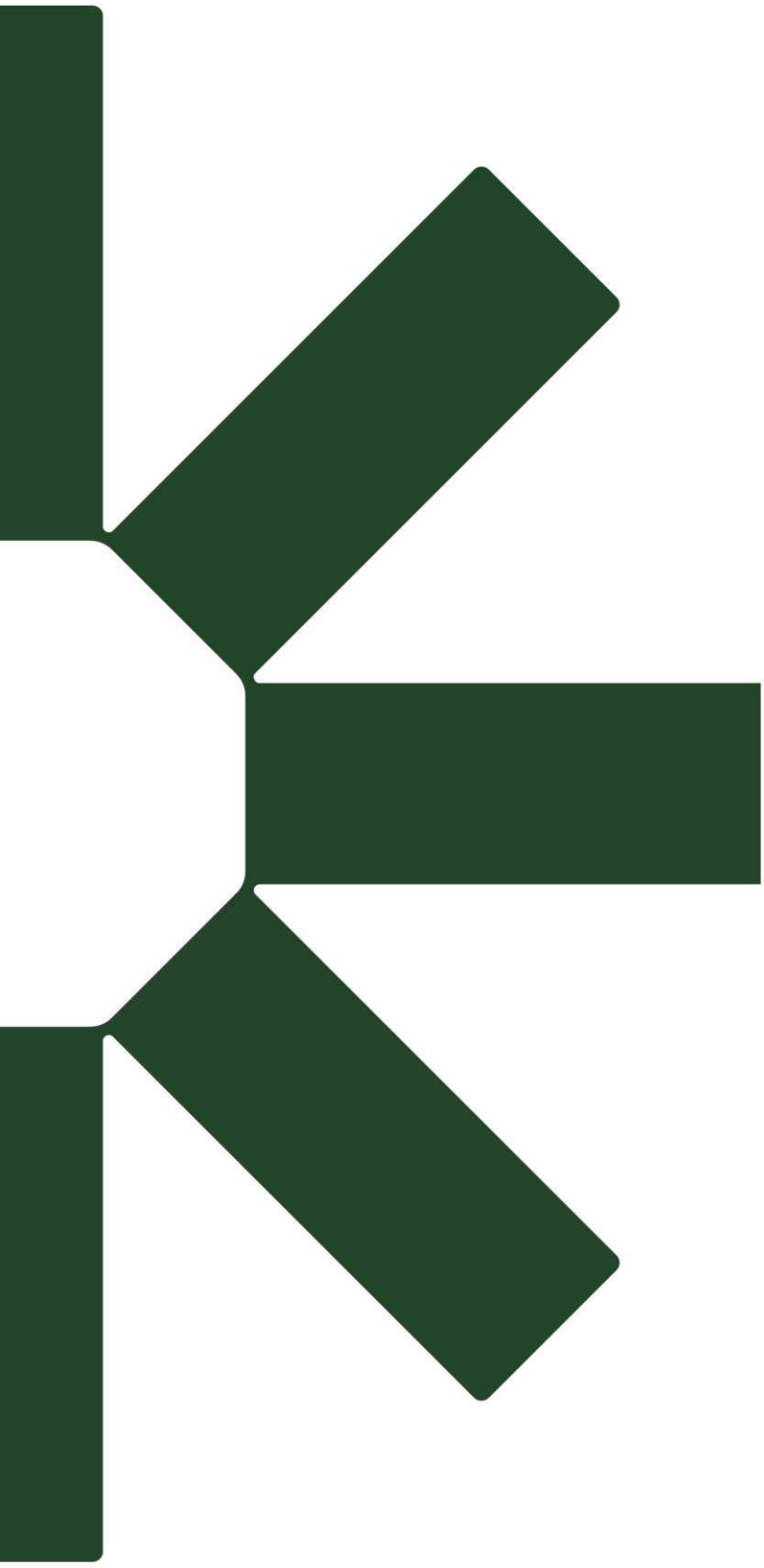
**Dust Action Plan**

**Breedon Trading Limited**

SLR Project No.: 425.066179.00001

8 November 2024

| Visual Monitoring and Dust Event Form | |
|---|---|
| **Name of Author** | |
| **Description of Event** [(a)] | |
| **Date / Time / Period** | |
| **Activities taking place during time / period of event:** | |
| **Dust control employed at the time of the event:** | |
| **Summary of weather conditions leading up to and during the event:** | |
| **Details of corrective action:** | |
| **Notes:** | |
| [(a)] E.g. complaint registered (name and address) or visible dust seen crossing the Site boundary during routine visual monitoring | |



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