

APPENDIX N

**DUST AND EMISSIONS MANAGEMENT PLAN (DEMP) (REPORT REFERENCE
BRE/WL/SE/1729/01/DEMP)**



**AN APPLICATION FOR AN ENVIRONMENTAL PERMIT
TO AUTHORISE THE DEPOSITION OF WASTE ON
LAND AS A RECOVERY ACTIVITY FOR THE
RESTORATION OF WILLINGTON LOCK QUARRY, ST
NEETS ROAD, BEDFORD TO AGRICULTURE AND
NATURE CONSERVATION**

APPENDIX N

**DUST AND EMISSIONS MANAGEMENT PLAN
VERSION 1.0**

Report reference: BRE/WL/SE/1729/01/DEMP
October 2021



Technical advisers on environmental issues

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This report has been prepared by MJCA with all reasonable skill, care and diligence, and taking account of the Services and the Terms agreed between MJCA and the Client. This report is confidential to the client and MJCA accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by MJCA beforehand. Any such party relies upon the report at their own risk.

1. Introduction

- 1.1** MJCA is commissioned by Breedon Trading Limited (Breedon) to prepare an application for a bespoke Environmental Permit for the deposition of waste on land as a recovery activity in order to restore the mineral extraction area at Willington Lock Quarry, St Neots Road, near Bedford (the site) to agriculture and nature conservation. This document comprises a Dust and Emissions Management Plan (DEMP) prepared to support the application.
- 1.2** This DEMP has been prepared based on Environment Agency guidance Control and monitor emissions for your environmental permit¹ with reference to the section of the guidance entitled “What to include in your dust management plan”.
- 1.3** This document presents the management techniques that will be used at the site to minimise the potential for particulate matter emissions from the site, the monitoring proposed to confirm the effectiveness of the management techniques and an action plan which will be implemented in the unlikely event that there is a significant emission of particulate matter from the site.
- 1.4** An assessment of the likelihood of particulate matter nuisance associated with the operation of the site is presented in the nuisance and amenity Environmental Risk Assessment (ERA) which is presented at Appendix H of the Environmental Permit application. In the ERA it is concluded that the residual risk in respect of fugitive emissions of particulate matter is ‘*low to very low*’.
- 1.5** The management and monitoring proposals in this document are based on a review of the ERA. The DEMP will be reviewed annually. The review will include consideration of the results of particulate matter monitoring and progress with any improvements identified. A review of the effectiveness of dust monitoring techniques will be undertaken and changes made to monitoring techniques as necessary.

¹Control and monitor emissions for your environmental permit - GOV.UK (www.gov.uk). Published on 1 February 2016. Last updated on 19 October 2020.

2. Site details and description of site operations

- 2.1** The area the subject of the Environmental Permit application at Willington Lock Quarry is located approximately 760m north east of the village of Willington and 830m south west of the village of Great Barford. The area the subject of the Environmental Permit application is referred to as the site. The eastern extent of Bedford is located approximately 3km west of the site. The site is centred approximately on National Grid Reference (NGR) TL 125 505 and covers an area of approximately 31.7 hectares. The site is accessed from St Neots Road which runs in a generally east west direction approximately 690m north of the site. An internal haul road first runs in a southerly direction from St Neots Road through the site reception area before turning east to run parallel with and north of the River Great Ouse and then crossing the River Great Ouse and entering the site via a bailey bridge to the north west of the site.
- 2.2** The site is located in a predominantly rural area. The site is bounded to the north west by The River Great Ouse and to the south east by the Barford Road. Both the River Great Ouse and Barford Road run generally from the south west to the north east in the area of the site. The River Great Ouse flows towards the north east. The north eastern and south western site boundaries are generally demarcated by field boundaries comprising trees and hedgerows. The site comprises 4 phases. Phases 1 and 2 are located in the southern area of the site and Phases 3 and 4 are located in the northern area of the site.
- 2.3** The closest property to the site is Old Mills Cottage which is located approximately 220m north east of the site on the southern bank of the River Great Ouse. Old Mills Cottages is a Grade II listed building. Mill Farm is located approximately 370m west south west of the site and Mill Farm Cottages and Barford Road Farm are located approximately 375m west south west of the site. There are no other properties within 500m of the site. There are several public rights of way at and in the vicinity of the site. National Cycle Route 51 which is also referred to as the Bedford to Sandy Way in the area of the site crosses the site in a generally east west direction between Phases 1 and 2 in the south and Phases 3 and 4 in the north. National Cycle Route 51 is linked to National Cycle Route 12 approximately 400m east of the site. National Cycle Route 12 and runs in a generally north easterly direction from National Cycle Route 51.

- 2.4** Footpath 3 crosses the northern part of the site generally from north east to south west. At the northern corner of the site there is a short section of Footpath 3 which runs adjacent to the southern bank of the River Great Ouse. Approximately 200m east of the site Footpath 3 joins Footpath 4 which crosses over the River Great Ouse and runs in a generally north easterly direction towards Great Barford. Footpath 3 continues in a south westerly direction to the west of the site towards Willington. Approximately 220m west of the site Footpath 2 joins Footpath 3. Footpath 2 crosses over the River Great Ouse and then runs in a generally westerly direction. Approximately 40m north of the site and beyond the River Great Ouse Bridleway 23 runs in a north easterly direction adjacent to the northern boundary of the River Great Ouse. Bridleway 8 runs in a generally south westerly direction approximately 150m south of the site. It is understood that during the mineral extraction and restoration operations Footpath 3 and National Cycle Route 51 will be diverted. Footpath 3 will be diverted round the northern boundary of the site and National Cycle Route 51 will be diverted round the eastern, northern and western boundaries of the site. To the north of the site Footpath 3 and National Cycle Route 51 will follow the same route.
- 2.5** The location of the areas of Willington Lock Quarry which are the subject of the Environmental Permit application are shown on Figure DEMP 1 and the layout of Willington Lock Quarry including the phasing is shown on Figure DEMP 2.

Source

- 2.6** The activities with the potential to generate and/or release particulate matter include the movement of particulate matter on vehicle bodies, the resuspension of particulate matter on temporary haul roads by vehicles, the wind scouring of waste surfaces and the action of the wind on waste materials while they are being handled. Temporary haul roads comprising hardstanding will be created to provide a surface suitable for HGV movements.

Pathway

- 2.7** Particulate matter is dispersed from the source to potential receptors by the wind. The location of sources of particulate matter in the site will vary depending on the location of waste deposit activities and temporary haul roads. The wind rose for the central Anglian region, which the site is located within, is presented at Appendix A and shown on Figure DEMP 2. The wind rose shows that the prevailing wind direction

is from the south west and therefore the areas to the north east of the site are down prevailing wind from the site.

Receptors

- 2.8** As explained above the site is in a predominantly rural area with the majority of the surrounding land in agricultural use or part of the wider Willington Quarry complex. The site and surrounding area is shown on Figure DEMP 2.
- 2.9** The closest property to the site is Old Mills Cottage which is located approximately 220m north east of the site on the southern bank of the River Great Ouse. Mill Farm is located approximately 370m west south west of the site and Mill Farm Cottages and Barford Road Farm are located from approximately 375m west south west of the site. There are no other properties within 500m of the site. The village of Great Barford is located approximately 925m north east of the site. As shown on Figure DEMP 2 the only sensitive residential receptor² within 500m down prevailing wind of the site is the residential property Old Mills Cottage, located approximately 220m east north east of the site.
- 2.10** As explained above there are several public rights of way at and in the vicinity of the site as shown on Figure DEMP 2. Of particular relevance is Footpath 3 which it is understood will be diverted round the northern boundary of the site and National Cycle Route 51 which it is understood will be diverted round the eastern, northern and western boundaries of the site.
- 2.11** The site is not located within an Air Quality Management Area (AQMA) for PM₁₀.

² Sensitive receptors as defined in Environment Agency guidance Control and monitor emissions for your environmental permit – Emissions management plan for dust

3. Particulate matter management techniques

- 3.1** The control of particulate matter at the site will be achieved by a combination of controls on waste delivery and receipt at the site and operational techniques employed at the site. The techniques selected for use at the site are based on well-established techniques to control the emissions of particulate matter. Collectively the techniques amount to good housekeeping. Reference has been made where relevant to the Environment Agency Technical Guidance Document (Monitoring) M17 entitled 'Monitoring of particulate matter in ambient air around waste facilities' (M17) and appropriate measures for control of dust and mud presented in Environment Agency Guidance Control and monitor emissions for your environmental permit. A variety of techniques will be used at the site based on site specific circumstances. The techniques are described below.

Responsibility for implementation of this plan

- 3.2** The Technically Competent Site Manager (TCM) shall be responsible for the management of particulate matter and site staff will be trained appropriately. The TCM will appoint a suitably trained deputy to oversee the management of particulate matter at the site during operational periods when the TCM is not present at the site. The TCM will provide the training for the deputy. The training will include refresher training where appropriate however during the course of routine operation of the site the experience of the site staff, including the deputy, will comprise on the job training which will complement the refresher training as necessary. It is the responsibility of the TCM to ensure that the DEMP is being followed and to ensure that appropriate training is given.

Operational controls

- 3.3** The operational controls employed currently at the existing quarry site will continue to be employed for the waste deposit area including the following.
- 3.4** All vehicles using the site will be instructed to sheet or otherwise contain their loads prior to arrival at the site to minimise the risk of particulate emissions. Loads will be sheeted or contained until such time as they are inspected and/or deposited. Following completion of the visual waste acceptance checks in the site reception

area, HGV drivers delivering waste to the site will be instructed to tip waste in the currently active phase of the site.

- 3.5** Waste received at the site is subject to pre-acceptance checks and acceptance screening comprising, where appropriate, visual inspection to confirm that the load is consistent with the waste types permitted for acceptance at the site. In the event that unsuitable materials are delivered to the site, including wastes comprising solely or mainly dusts, powders or loose fibres, the load will be rejected.
- 3.6** In order to minimise the deposition of mud that may subsequently dry and generate particulate matter if disturbed, such as when tracked over by vehicles, all vehicles delivering waste to the site will use the wheel cleaning facilities as necessary before leaving the site. The wheel cleaning facilities will be maintained in full working order throughout the life of the site. The site access road will be maintained and swept with a road sweeper as necessary.
- 3.7** The movement of mobile plant and site traffic will be restricted to defined haul routes which are maintained. Vehicle speed limits will continue to be imposed for safety reasons and to reduce the potential for significant particulate matter to be resuspended. Insofar as it is practicable all site vehicle exhausts will be upward pointing to prevent the disturbance of particulate matter from the road surfaces. Mobile plant equipment used at the site will be maintained in accordance with the manufacturer's recommendations to optimise performance and minimise vehicle emissions. A no idling policy will be implemented at the site for vehicles and plant.
- 3.8** During dry weather conditions a bowser will be used to spray water onto the haul roads and access roads together with areas of waste deposition as necessary to minimise the potential for particulate matter to be generated and become airborne. The bowser will have an adequate operational capacity and will be refilled using mains water or water pumped from the mineral extraction operation as necessary and by the end of each working day in preparation for use the next working day. The use of a water bowser is a proven effective dust management technique at numerous other deposit for recovery sites and inert landfill sites operated by Breedon. Operations which may have the potential to generate particulate matter will cease if weather conditions and ground conditions preclude effective dust control. This decision will be made at the discretion of the TCM based on the site conditions (dry, damp, wet) giving consideration to the weather conditions (windy, calm, etc) and the

type, quantity and particle size of the waste on site. Additional dust suppression will be employed as necessary to dampen waste materials during high winds particularly when the prevailing wind direction is towards potentially sensitive receptors in the vicinity of the site.

- 3.9** In the event that particulate matter control measures fail to the extent that effective dust management cannot be provided then waste related operations at the site will be suspended until such time as the control measures can be reinstated.
- 3.10** All relevant site personnel including contractors will be trained in working practices and mitigation measures to minimise the generation and release of particulate matter.
- 3.11** Drop heights will be minimised during the unloading of waste. The mobile water bowser will be employed if necessary to provide dust suppression to minimise the release of particulate matter during the unloading of waste at the site.
- 3.12** Visual monitoring for emissions of particulate matter will be undertaken by site personnel. Further details are provided in Section 4 of this document.

Action Plan

- 3.13** A particulate matter management and monitoring action plan is presented in Section 6. The particulate matter management and monitoring action plan will be implemented in the event that:
- i. there is an unacceptable visual emission of particulate matter from the site,
or
 - ii. a complaint is received

4. Particulate matter monitoring programme

4.1 In TGN M17 it is stated that despite the subjective nature of the visual assessment of dust emissions:

'this simple, cheap and easy to implement assessment approach has the significant advantage of providing instantaneous information on problems (e.g. it may be possible to directly observe the source of the dust emission, such as a particular stockpile) allowing rapid actions to be taken to deal with the problem.'

4.2 During all site operations visual monitoring for emissions of particulate matter will be undertaken by suitably trained site personnel. Visual monitoring by suitably trained site personnel is the most effective method of detecting as quickly as possible emissions of particulate matter throughout the working day thereby facilitating promptly the assessment of such emissions allowing the selection and implementation as quickly as practicable of control measures as necessary. The effectiveness of the measures taken in controlling emissions will be assessed during inspections undertaken at the site following implementation of the control measures. Any problem that is observed will be reported to the site manager who will be responsible for investigating the cause and implementing any necessary remedial action. The results of inspections and remedial measures taken will be recorded in the site diary.

4.3 In addition to the continual visual monitoring, specific routine visual monitoring will be undertaken comprising visual monitoring at up to 4 boundary locations at least once per day while the site is active. The on-site monitoring locations are shown on Figure DEMP 2. The results of the on-site monitoring of visible dust will be recorded on the checklist presented at Appendix C of this DEMP.

4.4 As part of the daily housekeeping practices, a final site inspection will be completed at the end of each working day to check that the site is in a condition that has a low potential to release dust outside of normal operational hours. Publicly available weather forecasts will be consulted by site staff to identify forecasts of extreme weather events or storms which may have the potential to increase the risk of the release of particulate matter from the site outside operational hours and additional control measures such as dampening of the working face prior to the end of the

working day will be implemented as necessary. The findings of the visual assessments will be recorded on the form provided at Appendix C of this DEMP. Any problem that is observed is reported to the TCM who will be responsible for investigating the cause and implementing any remedial action as necessary. Incidents and remedial measures taken will be recorded in the site diary.

- 4.5** The site manager will use the Meteorological Office (www.met-office.gov.uk) weather forecast or other forecast to predict weather conditions such as prolonged dry spells which may give rise to particulate matter emissions and will implement the appropriate precautionary and or management measures. A qualitative assessment of the on-site conditions will be undertaken as necessary and measures taken to control aerial emissions of particulate matter within the site boundary.
- 4.6** The records of the visual particulate matter monitoring will be reviewed periodically to facilitate the review and assessment of operational activities as necessary. The review will be carried out in conjunction with a review of meteorological data that are available and the site operations that took place during the monitoring period together with any complaints regarding particulate matter emissions that have been received.
- 4.7** In the event that based on the visual site observations there is an unacceptable particulate matter emission from the site the particulate matter management and monitoring action plan will be implemented. The particulate matter management and monitoring action plan is presented in Section 6.
- 4.8** As the activities undertaken at the site are limited to the deposit of inert waste and as the site is not located within an AQMA declared for Particulate Matter PM₁₀ it is unnecessary to undertake quantitative dust monitoring at the site.

5. Engagement with the community

5.1 Breedon are conscious of the potential impact on the environment of its activities and strive to manage and minimise those impacts. Breedon recognises the importance of community engagement and strives to build a positive working relationship with local residents and businesses across all of its sites. Contact details for the site, including out of hours contact details, shall be displayed on the signage at the site entrance.

Reporting of complaints and management responsibilities

5.2 Any complaints about the site operations and/or their impact on the environment made by third parties (including any complaints identified by the Environment Agency or Local Authority) will be brought to the attention of the TCM in the first instance who will identify and implement the measures needed to resolve the matter as set out in Section 6. They shall then make a note of the complaint and the actions taken to resolve it. A register of complaints will be maintained onsite in the site diary. Complaints will be escalated to senior management if necessary, based on the number and type of complaints. The need to escalate complaints will be decided by the TCM. Should complaints be escalated the details will be recorded in the site diary.

5.3 The particulate matter management and monitoring action plan which is implemented in the event that a complaint is received is presented in Section 6.

6. Particulate matter management and monitoring action plan

Context

6.1 The overriding management principle of the site with respect to the control of particulate matter shall be to operate the site in a manner which prevents or minimises the release of dust as set out in the DEMP. If it is considered that the waste received, handled and deposited at the site, or the site surfacing itself is in a condition that has the potential to release a significant quantity of dust such that there is a potential for off site dust emissions, additional dust suppression measures will be employed in a manner proportionate to the risk. These actions will be undertaken as part of the routine operation of the site. The action plan in this section of the report sets out the additional actions that will be taken in the event that conditions are identified whereby the routine measures need to be supplemented or improved.

Introduction

6.2 The action plan will be implemented in the event that:-

- i) there is an unacceptable visual emission of particulate matter from the site or
- ii) a complaint is received

6.3 An unacceptable visual emission of particulate matter from the site comprises a visual observation of dust or particulate matter crossing the site boundary. The initial observation will be made by the site operative who has identified the emission and will be verified by the TCM.

6.4 The timescale for implementation of the action plan will vary depending on the circumstances under which it is implemented. If an unacceptable visual emission is observed by site operatives there will be no delay in implementing the action plan, whereas a complaint may be received by the operator a number of hours or even days after the activity that may have contributed to the complaint has ceased. In the latter case investigation of the complaint will be based on a review of the data and observations recorded at the site corresponding to the time at which the complainant observed the event.

Action plan

6.5 In the event that an unacceptable visual emission of particulate matter from the site is observed by site personnel or in the event of a complaint associated with particulate matter emitted from the site the event will be investigated immediately by the TCM to determine the source as follows:

If it is established that the emissions are attributable to the waste activities being undertaken at the Breedon site action will be taken to control the emissions including where relevant:

- Establish the cause of the emissions and take immediate action to control the emissions
- If emissions are attributable to unloading or depositing of waste dust suppression will be applied to control the particulate matter emission from the activity being undertaken. If necessary, the unloading and depositing of waste will temporarily cease.
- Organise additional road sweeping and mobilise the bowser to spray the affected area if necessary.
- Take action to ensure that vehicles are obeying the speed limits.
- Identify whether there are any other activities being undertaken at locations other than the Breedon site including the locations with the potential to release particulate matter identified in Table DEMP 1 and estimate the extent to which other activities may contribute to the visual emissions observed on the site including circumstances where windblown dust may be transported across and/or over the site from the external sources.
- In the unlikely event that the routine control measures employed at the site are not sufficient to control particulate matter emissions then consideration will be given to further measures to minimise and control emissions including consideration of erecting static water sprays in strategic locations.

6.6 Appropriate action will be taken which will include the cessation of the activity if necessary. In the case of a complaint action taken will be communicated to the

complainant. The nature of the complaint, the findings of the investigation and the action taken will be recorded using the form presented at Appendix B. Consideration will be given to the wind speed and direction, the site operations and observations. As necessary the relevant operational procedures will be reviewed and improvements implemented.

TABLES

Table DEMP 1

Summary of the receptors in the vicinity of the site

Ref	Name or description	Type of receptor	Approximate distance from site (m)	Direction from site
1	Breedon Willington Lock Quarry Complex	Commercial	540	NW
2	Mill Farm	Commercial	370	WSW
3	Frosts Garden Centre	Commercial	845	SW
4	Greenhouse People Bedford	Commercial	815	SW
5	Westridge Motor Company	Commercial	750	SW
6	MOVEO UK	Commercial	560	SSE
7	Barford Road Farm & Mill Farm Cottages	Commercial & Domestic Dwellings	375	WSW
8	Great Barford Domestic Dwellings	Domestic Dwellings	925	NE
9	Bedford Road Domestic Dwelling	Domestic Dwellings	750	NW
10	St Neots Road Domestic Dwelling	Domestic Dwellings	810	NW
11	Willington Domestic Dwellings	Domestic Dwellings	810	WSW
12	Sandy Road Domestic Dwelling	Domestic Dwellings	740	SSW
13	Old Mills Cottage	Listed Building	220	NE
14	Great Barford Primary School	School	893	NNE
15	A603	Transport	650	SW, S, SE
16	Willington Lake	Water Body	80	E
17	River Great Ouse	Water Body	Adjacent	NW, N, NE
18	Breedon Willington Lake	Water Body	120	NW
19	Gadsey Brook	Water Body	350	WNW
20	Footpath 3	Right of way	Internal/adjacent	NW, N, NE (if adjacent)
21	National Cycle Route 51	Right of way	Internal/adjacent	W, NW, N, NE E (if adjacent)

Notes

Only selected receptors within 1km of the site are reported. Distances are approximate to the nearest 10m. The shaded boxes comprise activities such as roads and commercial operations in the vicinity of the site which have the potential to contribute particulate matter emissions to local air quality.

Table DEMP 2
Waste types authorised to be accepted at the site

EWC Code	Description	Nature	Potential for dust generation without mitigation^A	Reason
01 01 02	Wastes from mineral non-metalliferous excavation	Solid	Low-Medium	This waste type will be similar to the soil accepted under EWC code 17 05 04.
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 06	Solid	Low	This waste generally will be denser than soil and stones
01 04 09	waste sand and clays	Solid	Low-Medium	This waste type will be similar to the soil accepted under EWC code 17 05 04.
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)	Solid	Low	This waste type typically comprises large items. These waste types rarely are received at the site.
17 01 01	Concrete	Solid	Low	Concrete/Bricks/Tiles typically comprise large items. These waste types rarely are received at the site.
17 01 02	Bricks	Solid	Low	
17 01 03	Tiles and Ceramics	Solid	Low	
17 01 07	Mixtures of concrete, bricks, tiles and ceramics	Solid	Low-Medium	Due to the mixed nature, the waste may have been broken up during loading and transportation. This waste type rarely is received at the site.
17 05 04	Soil and Stones (C&D waste)	Solid	Low-Medium	Soils are typically finer grained than aggregate/stones and can release dust during loading and unloading. This will be the most common waste type accepted at the site
19 12 09	minerals (for example sand, stones)	Solid	Low-Medium	This waste type will be similar to the soil accepted under EWC code 17 05 04.
20 02 02	Soil and stones (garden and park wastes)	Solid	Low-Medium	Soils are typically finer grained than aggregate/stones and can release dust during loading and unloading. This waste source rarely is received at the site.

Notes

A - The control measures applied at the site to minimise the potential for generation of dust from the storage of the waste types specified in Table 2 are set out in Section 3 of this DEMP.

Table DEMP 3

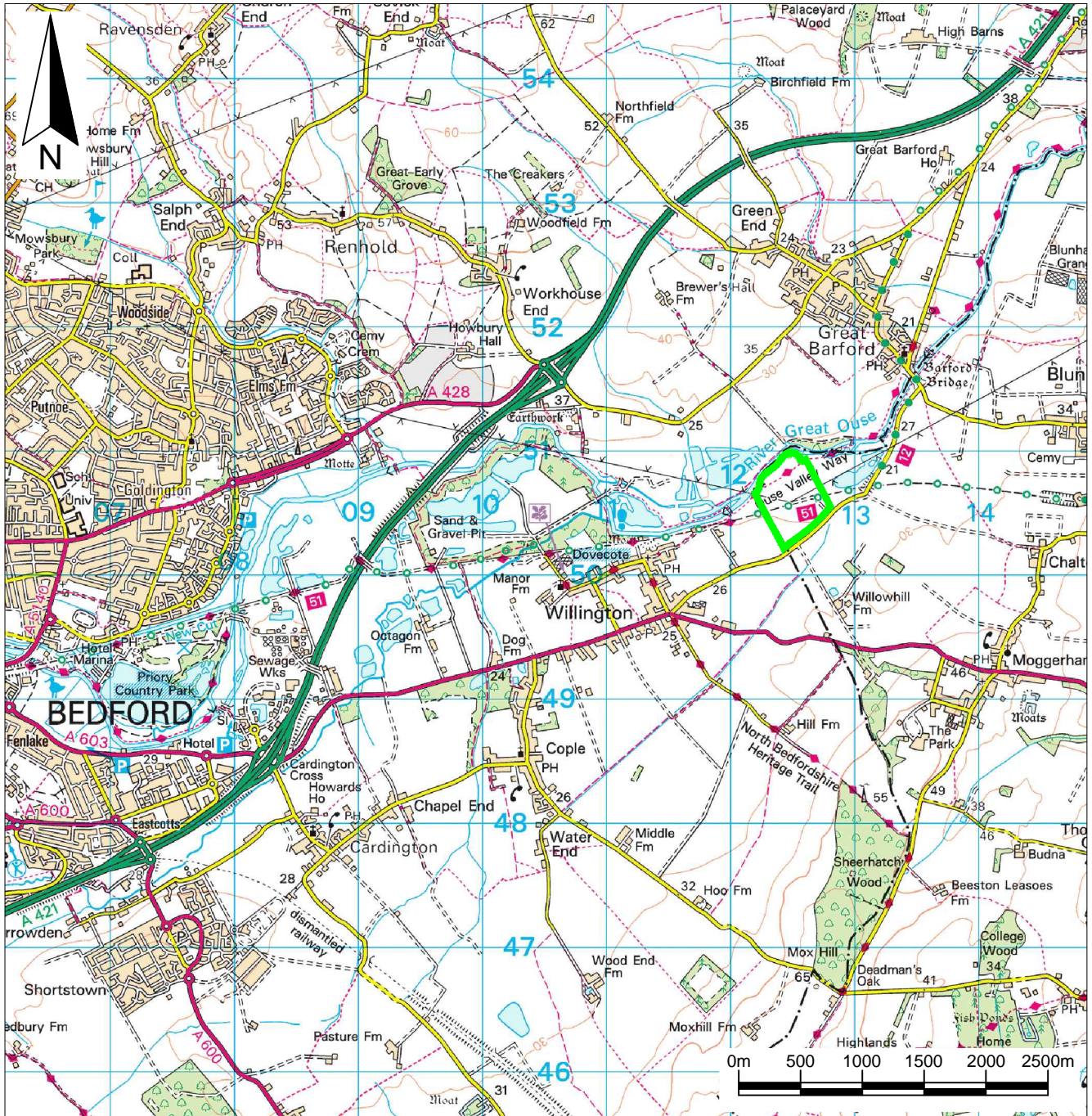
Source - pathway - receptor linkages

For each of the sources and pathways included in the table the receptor is considered to be the receptors identified in Table DEMP 1, particularly those located down prevailing wind of the site. The sources in the table comprise those identified in Paragraph 2.6 of the DEMP. Further details of the techniques employed to minimise the emissions of dust are presented in Section 3 of the DEMP.

Source	Pathway	Techniques employed to minimise the emissions of dust
Vehicles entering and/or leaving the site with mud on their wheels	Tracking out of the site of particulate matter and mud on vehicle wheels which may drop off and deposit on the public highway which may subsequently dry and generate particulate matter if disturbed such as when tracked over by vehicles.	All vehicles delivering waste to the site will use the wheel cleaning facilities as necessary before leaving the site. The wheel cleaning facilities will be maintained in full working order throughout the life of the site. The site access road will be maintained and swept with a road sweeper as necessary.
The release of particulate matter and debris from waste loads as they are delivered to the site	Falling off delivery vehicles.	All vehicles using the site will be instructed to sheet or otherwise contain their loads prior to arrival at the site to minimise the risk of particulate emissions. Loads will be sheeted or contained until such time as they are inspected and/or deposited.
The resuspension of particulate matter on roads and site surfacing by vehicles	Atmospheric dispersion	The movement of mobile plant and site traffic will be restricted to defined haul routes which will be maintained. Vehicle speed limits will be imposed for safety reasons and to reduce the potential for significant particulate matter to be resuspended. Insofar as it is practicable all site vehicle exhausts will be upward pointing to prevent the disturbance of particulate matter from the road surfaces. The site access road will be maintained and swept with a road sweeper as necessary.
The release of particulate matter when waste loads are deposited at the site.	Atmospheric dispersion	Drop heights will be minimised during the unloading of waste. A mobile water bowser will be employed if necessary to provide

Source	Pathway	Techniques employed to minimise the emissions of dust
		dust suppression to minimise the release of particulate matter during the unloading of waste at the site.
Wind scouring of waste surfaces.	Atmospheric dispersion	Once waste deposit is complete in specific areas of the site, restoration soils will be placed and seeded (depending on the end use of the area) to minimise the potential for wind scouring. Waste surfaces which have the potential to dry out and release significant quantities of particulate matter prior to being restored will be dampened using the water bowser.
Particulate emissions from the exhaust of vehicles and plant on site.	Atmospheric dispersion	Vehicles and plant on site will be maintained to optimise performance and minimise vehicle emissions. A no idling policy will be implemented at the site for vehicles and plant.

FIGURES



Key / Notes



Approximate boundary of the site the subject of the Environmental Permit application

Rev	Final	KR	AKM	GT	15/10/21
	Status	Drn	App	Chk	Date

Site
WILLINGTON LOCK

Client

Title
The site location

Figure DEMP 1 Scale
1:50,000@A4

Drawing Ref
BRE/WL/09-21/22796












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Key / Notes


-  Approximate boundary of the site the subject of the Environmental Permit application
-  Limit of extraction
-  Phase boundary
-  Overhead power cable
-  Concrete/tarmac primary site access road
-  Internal haul roads
-  Approximate location for the monitoring of visible dust (note that monitoring will only be undertaken at locations adjacent to active Phases in which imported waste is being deposited and the locations will be revised as Footpath 3 and National Cycle Route 51 are diverted)
-  Potential receptor of dust generally within a 1km radius of the site
-  250m distance from the site
-  500m distance from the site
-  1000m distance from the site

Note:
The numbers shaded in grey on the drawing and shown in Table DEMP 1 comprise activities such as roads and commercial operations in the vicinity of the site which have the potential to contribute particulate matter emissions to local air quality.

Ref	Name or description	Type of receptor	Approximate distance from site (m)	Direction from site
1	Breedon Willington Lock Quarry Complex	Commercial	542	NW
6	MOVEO UK	Commercial	560	SSE
7	Barford Road Farm	Commercial	375	WSW
15	ASB	Transport	650	SSW

Rev	Final	KR	AKM	GT	15/10/21
Rev	Status	Drn	App	Chk	Date

Site
WILLINGTON LOCK

Client











Title
The site and surrounding area

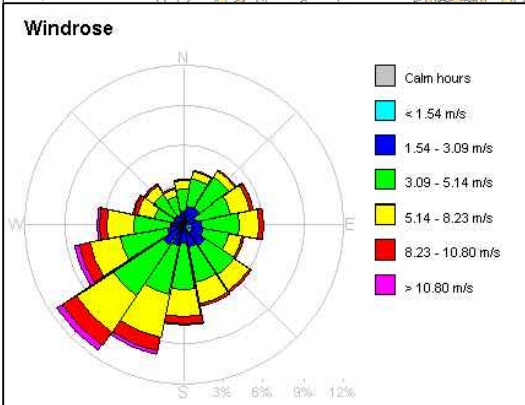
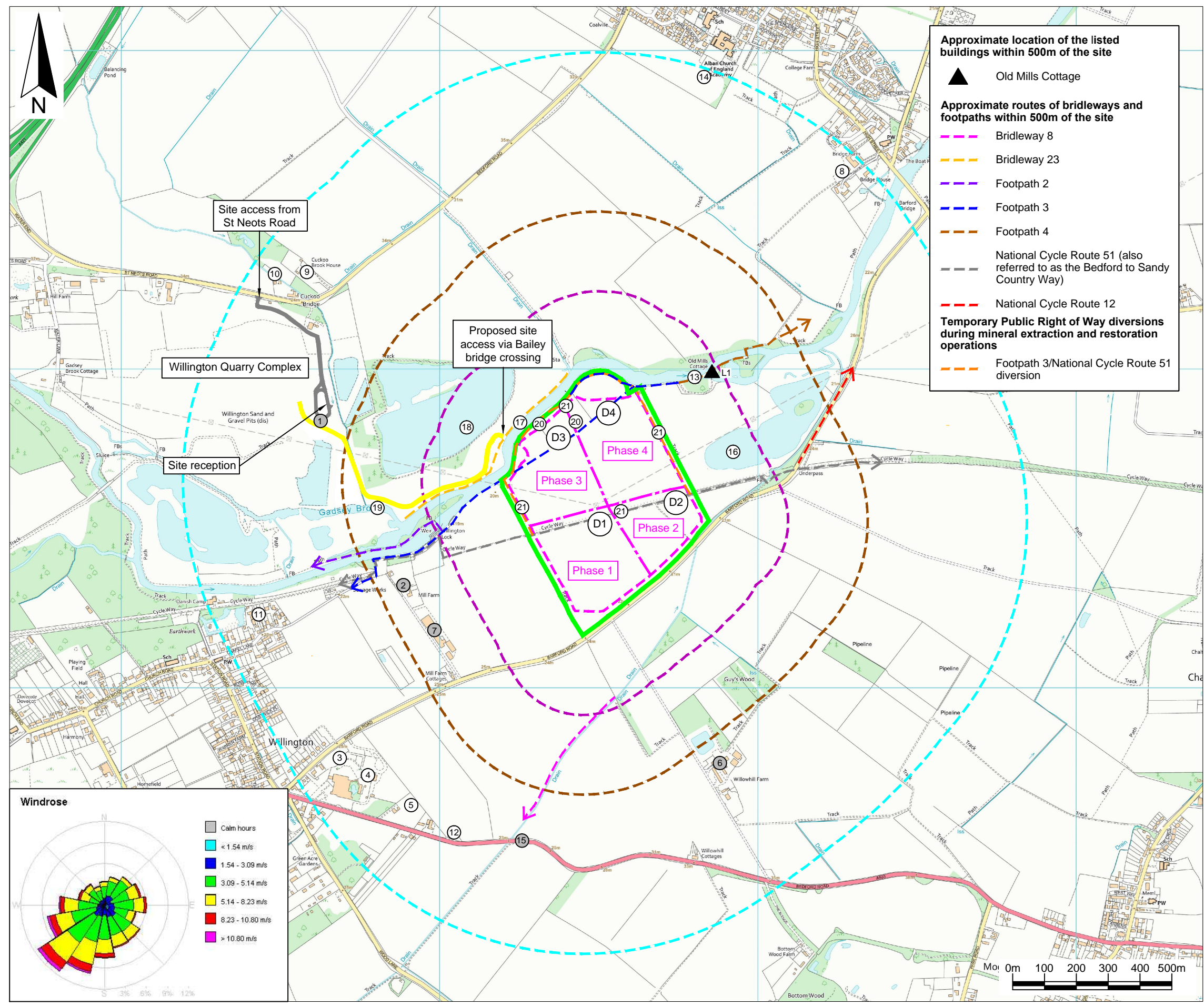
Figure DEMP 2 | Scale 1:12,500@A3

Drawing Ref
BRE/WL/09-21/22797

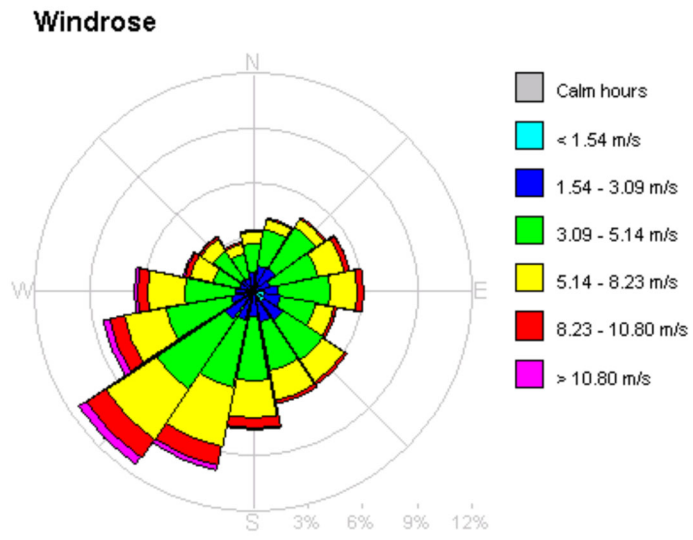
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 Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone
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- Approximate location of the listed buildings within 500m of the site**
-  Old Mills Cottage
- Approximate routes of bridleways and footpaths within 500m of the site**
-  Bridleway 8
 -  Bridleway 23
 -  Footpath 2
 -  Footpath 3
 -  Footpath 4
 -  National Cycle Route 51 (also referred to as the Bedford to Sandy Country Way)
 -  National Cycle Route 12
- Temporary Public Right of Way diversions during mineral extraction and restoration operations**
-  Footpath 3/National Cycle Route 51 diversion



APPENDIX A
WIND ROSE FOR ANGLIAN REGION: CENTRAL



APPENDIX B
PARTICULATE MATTER MONITORING AND MANAGEMENT ACTION PLAN RECORD
FORM

Particulate matter monitoring and management action plan record form

Particulate Matter Complaint Report Form		Sheet No
Date:	Site to which complaint relates	Grid Reference:
Name and address of complainant:		
Tel no. of complainant:		
Time and date of complaint:		
Date, time and duration of particulate matter emission:		
Location of particulate matter emission, if not at above address:		
Weather conditions (i.e., dry, rain, fog, snow):		
Cloud cover (0-8):		
Cloud height (low, high, very high):		
Wind strength - (light, steady, strong, gusting)	Or use Beaufort scale:	
Wind direction:		
Complainant's description of particulate matter emission :		
Has complainant any other comments about the particulate matter emission?		
Are there any other complaints relating to the site, or to that location? (either previously or relating to the same exposure)		
Any other relevant information:		
On-site activities at time the particulate matter emission occurred:		
Form completed by	Signed	

Particulate matter monitoring and management action plan record

Actions taken (and outcome):

Completed by:

Date:

APPENDIX C
VISUAL DUST MONITORING FORM

Dust Monitoring Form

Week commencing:

Day	Name of assessor	Time	Location	Wind direction	Visual observations / Comments	Action taken
Monday			D1			
			D2			
			D3			
			D4			
Tuesday			D1			
			D2			
			D3			
			D4			
Wednesday			D1			
			D2			
			D3			
			D4			
Thursday			D1			
			D2			
			D3			
			D4			
Friday			D1			
			D2			
			D3			
			D4			
Additional comments						

Signed off by:

This form should be read and used in conjunction with Figure DEMP 2 which shows the visual monitoring locations D1, D2, D3 and D4.

Visual monitoring will only be undertaken at locations adjacent to active Phases in which imported waste is being deposited.

Use as many of these forms as necessary

				Date:	September 2021		
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