



**AN APPLICATION FOR AN ENVIRONMENTAL PERMIT
TO AUTHORISE THE TRANSFER AND DEPOSITION OF
WASTE ON LAND AS A RECOVERY ACTIVITY FOR
THE RESTORATION OF THE SOUTHERN EXTENSION
TO SWARKESTONE QUARRY, BARROW UPON
TRENT, DERBYSHIRE**

**DUST AND EMISSIONS MANAGEMENT PLAN
VERSION 1.0**

Report reference: TAR/SW/AW/5655/01/DEMP
August 2022



Baddesley Colliery Offices, Main Road, Baxterley, Atherstone, Warwickshire, CV9 2LE
Tel. (01827) 717891 Fax. (01827) 718507

CONTENTS

1.	Introduction	1
2.	Site details and description of site operations	3
3.	Particulate matter management techniques	6
4.	Particulate matter monitoring programme	9
5.	Engagement with the community	11
6.	Particulate matter management and monitoring action plan	12

TABLES

Table DEMP 1	Summary of the receptors in the vicinity of the site
Table DEMP 2	Waste types authorised to be accepted at the site
Table DEMP 3	Source – pathway – receptor linkages

FIGURES

Figure DEMP 1	The site location (drawing reference TAR/SW/06-22/23229)
Figure DEMP 2	The site and surrounding area (drawing reference TAR/SW/06-22/23230revA)

APPENDICES

Appendix A	Wind Roses for Midlands Region: Lower Trent Midlands Region: Lower Trent and Upper Trent
Appendix B	Particulate matter monitoring and management action plan record form
Appendix C	Visual dust monitoring form

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 Tarmac Trading Limited (Tarmac) to prepare an application for a bespoke Environmental Permit for the transfer and deposition of waste on land as a recovery activity in order to restore Phases 1 and 2 and parts of Phases 3 and 4 of the Southern Extension to Swarkestone Quarry, Twyford Road, Barrow upon Trent, Derbyshire. Throughout this application Phases 1 and 2 and those parts of Phases 3 and 4 in which waste will be deposited together with the area adjacent to the existing Swarkestone Quarry exclusively for the storage and transfer of restoration materials (proposed transfer area) are referred to as the site (shown on Figure DEMP 1). 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 G 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

¹<https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit>
Published 1 February 2016. Last Updated 17 May 2021.

improvements identified. A review of the effectiveness of dust monitoring techniques will be undertaken and changes made to monitoring techniques as necessary.

2. Site details and description of site operations

- 2.1** The Swarkestone Quarry complex is located approximately 475m west south west of the village of Barrow upon Trent in a predominantly rural area. The Southern Extension to Swarkestone Quarry and the proposed transfer area forms part of the wider Swarkestone Quarry complex of mineral workings which includes an area the subject of Environmental Permit number EPR/FP3193SY for restoration to agriculture by the importation of inert wastes. The Southern Extension to Swarkestone Quarry is located in the south west of the Swarkestone Quarry complex to the south and west of the River Trent. The proposed transfer area is within the Swarkestone Quarry complex and to the north east of the Southern Extension and River Trent. The Southern Extension to Swarkestone Quarry is located approximately 1.5km south west of the village of Barrow upon Trent and is centred approximately at National Grid Reference (NGR) SK 335 275. The proposed transfer area is located approximately 660m west south west of the village of Barrow upon Trent. The villages of Foremark, Ingleby and Twyford are located approximately 500m south, 850m east-south east and 950m north west of the site respectively. The main access to the site is from the existing entrance to the Swarkestone Quarry complex off the A5132 and via a new haul road and proposed bailey bridge over the River Trent.
- 2.2** The location of the site which is the subject of this Environmental Permit application is shown on Figure DEMP 1 and the layout of Swarkestone Quarry including the phasing is shown on Figure DEMP 2. The proposed Environmental Permit boundary is shown marked in green on Figure DEMP 1 and Figure DEMP 2. The site is part of the wider Southern Extension encompassing five phases of mineral extraction. The mineral processing plant and proposed transfer area is located in the Swarkestone Quarry complex to the north east of the River Trent.

Source

- 2.3** 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. The site access road from the main road to the weighbridge is concrete to provide a suitable

surface for HGV movements and temporary haul roads comprising hard standing will be created to provide a surface suitable for HGV movements.

Pathway

- 2.4** 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. Based on the prevailing wind direction which is from the south west, as shown on the wind roses for the Environment Agency Midlands Region presented at Appendix A and shown on Figure DEMP 2, areas to the north east of the site are down prevailing wind of the site.

Receptors

- 2.5** As explained above Swarkestone Quarry is located in a predominantly rural area with the majority of the surrounding land in agricultural use. The site and surrounding area are shown on Figure DEMP 2. With the exception of the eastern and northern boundaries which border the River Trent the Southern Extension to Swarkestone Quarry is bounded by hedgerows or woodland. The closest properties to the site are the buildings associated with Foremarke Hall located approximately 415m south south east of the site. Foremarke Hall is part of the wider Repton Prep School which is a major part of Foremarke Village located approximately 500m south of the site. Foremark Playing Fields are located approximately 370m south west of the site and comprise part of the grounds of Repton Prep School. Anchor Church is the closest Grade II listed building located approximately 150m east-south east of the site with historical cave features also comprising a small area of publicly accessible woodland. Approximately 270m north of the Southern Extension is an area of land adjacent to the northern bank of the River Trent which is used for water based recreational activities. As shown on Figure DEMP 2 there are no sensitive receptors² comprising residential properties, schools, hospitals, nursing homes or food preparation facilities within 500m downwind (north east) of the site. From the proposed transfer area, the closest sensitive receptors are residential properties and farms approximately 400m to the north although these are not downwind.

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

- 2.6** There are several Public Rights of Way (PRoW) at and in the vicinity of the site as shown on Figure DEMP 2. The only PRoW which crosses the site is Footpath Foremark FP 11 which runs in a generally north-north west direction crossing the south western corner of Phase 2 turning generally west-north west, crossing Phase 5 and joining Footpath Foremark FP9 approximately 300m west of Phase 2. As shown on Figure ESSD 2 to the south Footpath Foremark FP11 and to the north Footpath Foremark FP9 join the wider footpath network in the area of the site. Footpath Foremark FP 11 will be diverted during the operation of the site. The restoration of the site will incorporate new footpaths which will connect to the wider footpath network.
- 2.7** The site is not located within an Air Quality Management Area (AQMA).

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 or in the proposed transfer area.

- 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 bath as necessary before leaving the Swarkestone Quarry complex. The wheel bath 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 at 10mph on site and 20mph from the main road to the weighbridge 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 storage and deposition as necessary to minimise the potential for particulate matter to be generated and become airborne. The bowser has a capacity of approximately 5,000 litres and is refilled using either mains water or water abstracted at the site 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 the inert landfill site operated by Tarmac to the north of the River Trent. 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.

- 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 3 boundary locations at least once per day while the site is active. The approximate location of 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 there are no sensitive receptors located within 500m downwind of the site and 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 it is unnecessary to undertake quantitative dust monitoring at the site.

5. Engagement with the community

- 5.1** Tarmac are conscious of the potential impact on the environment of its activities and strive to manage and minimise those impacts. Tarmac recognises the importance of community engagement and strives to build a positive working relationship with local residents and businesses across all of its sites. There is an active public liaison group and 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 and dealt with including escalating and recording the complaint in accordance with the Company's complaint procedure.
- 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:
- 6.6** If it is established that the emissions are attributable to the waste activities being undertaken at the Tarmac 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 Tarmac 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.

- 6.7** 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 the waste recovery & transfer area (m)	Direction from the waste recovery & transfer area
1	Repton Preparatory School including Foremarke Hall, Home Farmhouse & Foremark Cottages	Education, Listed Buildings, Residential & Commercial	415	SSW
2	Tarmac Swarkestone Sand & Gravel Quarry	Commercial	540 & 0	NE & W, S
3	Acorn Tractors	Commercial	740 & 640	N & WNW
4	Trent Adventure	Commercial	830 & 700	N & WNW
5	Cuckoo Barn	Domestic Dwellings	800	SE
6	Ingleby Village	Domestic Dwellings	880	ESE
7	Twyford Hall & range of outbuildings	Listed Buildings	950	NW
8	Meadow Lane Property	Domestic Dwellings	900	WNW
9	Anchor Church	Listed Building	150	ESE
10	Twyford Henge and Round Hill Bowl Barrow	Listed Building	630 & 885	NNW & W
11	Anchor Church and Anchor Church Rocks West	Local Wildlife Site	150	ESE
12	Foremarke Playing Fields	Recreational	370	SW
13	Kayak Centre	Recreational	270 & 700	N & WSW
14	Church of St Saviour & two sets of gate piers and walls enclosing the churchyard	Listed Buildings & Religious	800	SSW
15	A5132	Road	430	N
16	Elm Farmhouse and attached outbuildings	Listed Building	975	E
17	Poplars Cottage	Domestic Dwelling	600	NW
18	Fields Farm	Domestic Dwelling	410	N
19	Parsonage House	Domestic Dwelling	435	N
20	Barrow upon Trent Playing Field	Playing Fields	450	ENE
21	The Grange	Listed Building	550	NE
22	Sale and Davys Playgroup	Education	665	ENE
23	Old Manor Farm & Fir Tree Farm	Domestic Dwellings	660	ENE
24	Barrow upon Trent Village	Domestic Dwellings	660	ENE
25	Littlecroft	Listed Building	870	ENE
26	St Wilfrids	Listed Building	830	ENE
27	Village School	Listed Building	850	ENE
28	War Memorial at Twyford Road	Listed Building	865	ENE
29	Church of St Wilfrid	Listed Building	875	ENE
30	2-18 Twyford Road	Listed Building	925	ENE
31	River Trent	Water Feature	70 & 430	NW, N, NE & SW
32	Lodge Cottage	Listed Building	970	ENE

Notes

Only selected receptors within 1km of the site are identified. Distances are approximate to the nearest 5m.

The numbers shaded in grey in the 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.

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

Waste Code	Description (consistent generally with SR2015_No39)	Restrictions (consistent generally with SR2015_No39)	Waste Code	Description (consistent generally with SR2015_No39)
01 01	wastes from mineral excavation	-	01 01	wastes from mineral excavation
01 01 02	Wastes from mineral non-metalliferous excavation	Restricted to waste overburden and interburden only	01 01 02	Wastes from mineral non-metalliferous excavation
01 04	wastes from physical and chemical processing of non-metalliferous minerals	-	01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 06	-	01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 06
01 04 09	Waste sand and clays	-	01 04 09	Waste sand and clays
01 04 12	Tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11		01 04 12	Tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products	-	10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)	-	10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)
17 01	concrete, bricks, tiles and ceramics	-	17 01	concrete, bricks, tiles and ceramics
17 01 01	Concrete	-	17 01 01	Concrete
17 01 02	Bricks	-	17 01 02	Bricks
17 01 03	Tiles and ceramics	-	17 01 03	Tiles and ceramics

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 DEMP 2 are set out in Section 3 of this DEMP.

Table DEMP 3

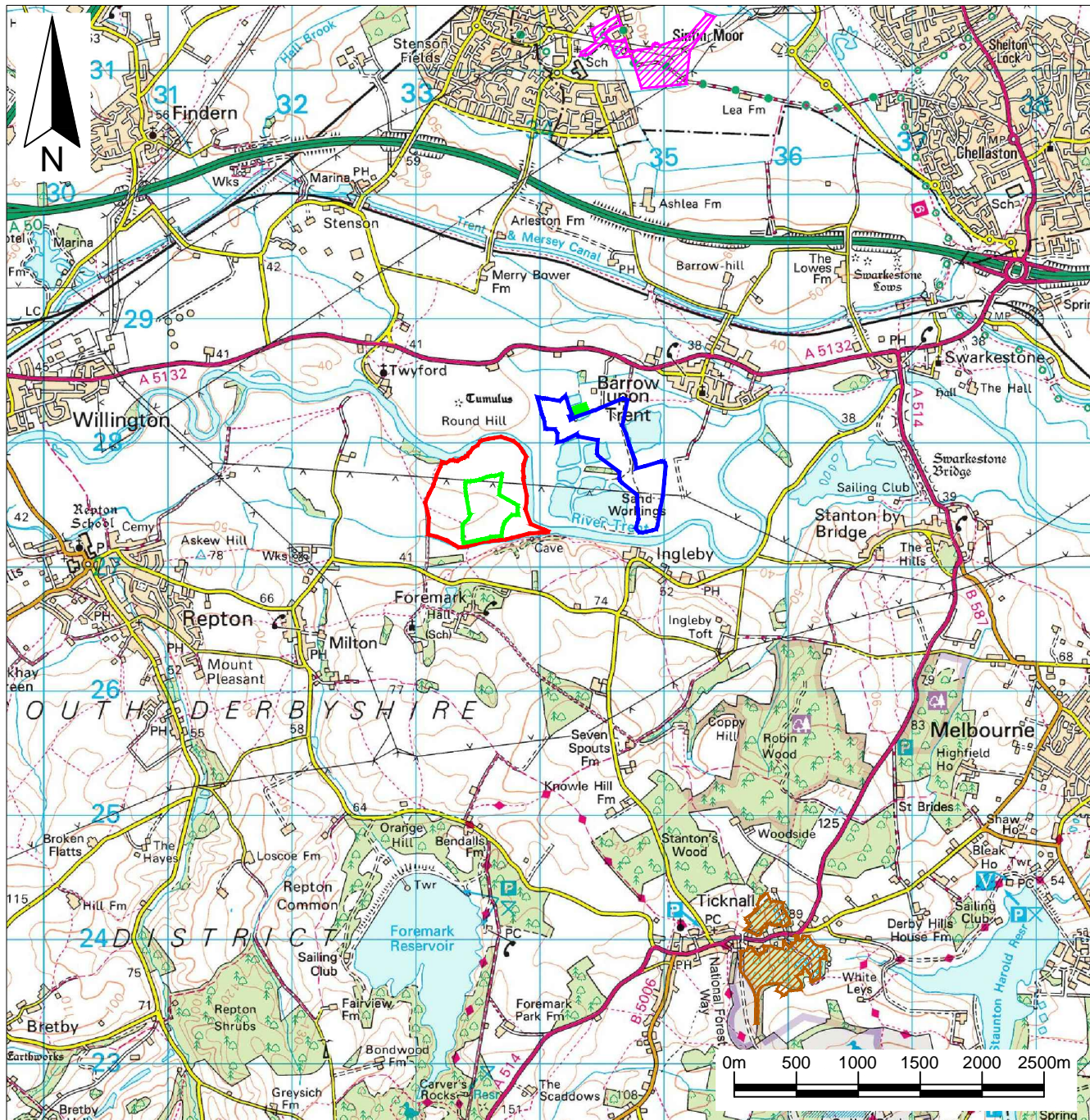
Source - pathway - receptor linkages

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 2.3 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 bath as necessary before leaving the site. The wheel bath 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. A mobile water bowser will be used as


Source	Pathway	Techniques employed to minimise the emissions of dust
		necessary to dampen down roads and site surfacing.
The release of particulate matter when waste loads are stored and 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 dust suppression to minimise the release of particulate matter during the unloading and storage 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 and the storage of waste 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

-  Boundary of Environmental Permit number EPR/FP3193SY
-  Approximate extent of the Sinfin Moor Local Nature Reserve
-  Boundary of planning permission reference CM9/1215/122
-  Approximate extent of the Ticknall Quarries SSSI
-  Approximate boundary of the site the subject of the Environmental Permit
-  Approximate boundary of the site the subject of the Environmental Permit exclusively for the storage and transfer of restoration materials

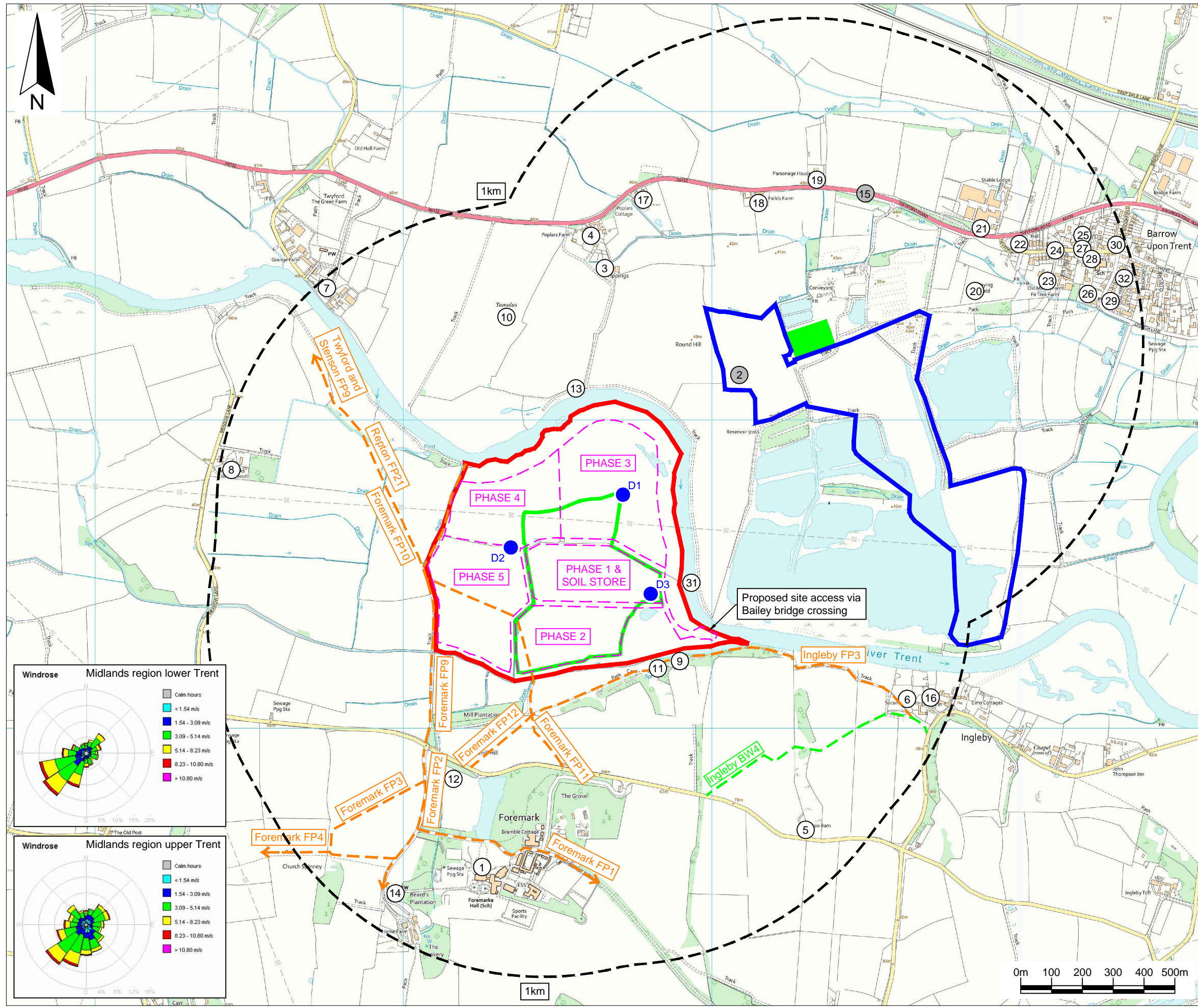
Rev	Final	KR	NCW	GT	19/07/22
Rev	Status	Drn	App	Chk	Date
Site SWARKESTONE QUARRY					
Client 					
Title The site location					
Figure DEMP 1				Scale 1:50,000@A4	
Drawing Ref TAR/SW/06-22/23229					












Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507

Technical advisers on environmental issues

Reproduced scale mapping by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright 2006. All rights reserved. Licence number 100017818.



Key / Notes

-  Boundary of Environmental Permit number EPR/FP3193SY
-  Boundary of planning permission reference CM9/1215/122
-  Approximate boundary of the site the subject of the Environmental Permit
-  Approximate boundary of the site the subject of the Environmental Permit exclusively for the storage and transfer of restoration materials
-  Phase boundaries
-  1km offset from the approximate boundary of the site the subject of the Environmental Permit application
-  Approximate location for the monitoring of visible dust
-  Approximate routes of brideways and footpaths within 500m of the site
-  Receptors within 1km of the site

The numbers shaded in grey on the drawing and shown in the 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.

A	Receptors amended	KR	NCW		
	Final	KR	NCW	GT	19/07/22
Rev	Status	Drn	App	Chk	Date

Site: SWARKESTONE QUARRY

Client:  **TARMAC**
A CRH COMPANY

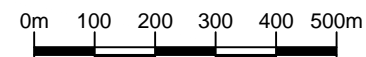
Title: The site and surrounding area including receptors in the vicinity of Swarkestone Quarry

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

Drawing Ref: TAR/SW/06-22/23230revA

Reproduced scale mapping by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright 2006. All rights reserved. Licence number 100017818.

 **MJCA**
Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone: 01827 717891
Technical advisers on environmental issues Fax: 01827 718507

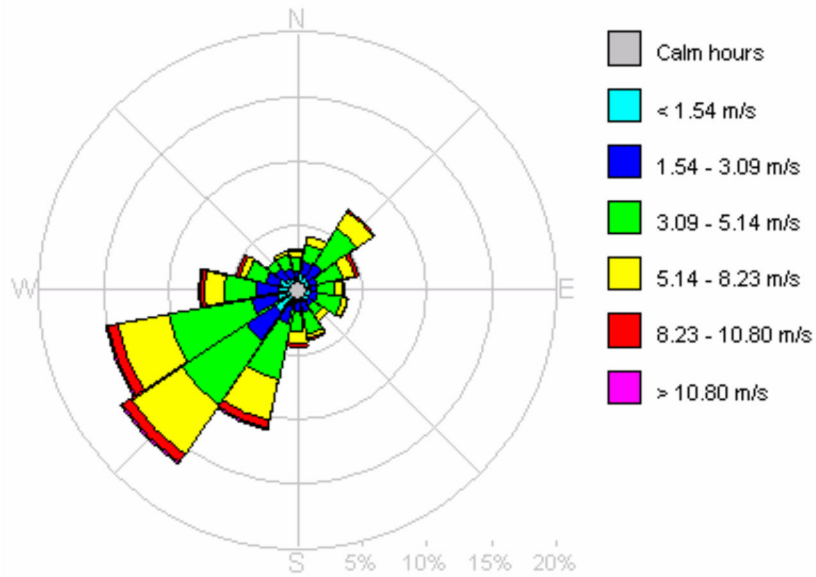


APPENDIX A

**WIND ROSES FOR MIDLANDS REGION: LOWER TRENT MIDLANDS REGION: LOWER
TRENT AND UPPER TRENT**

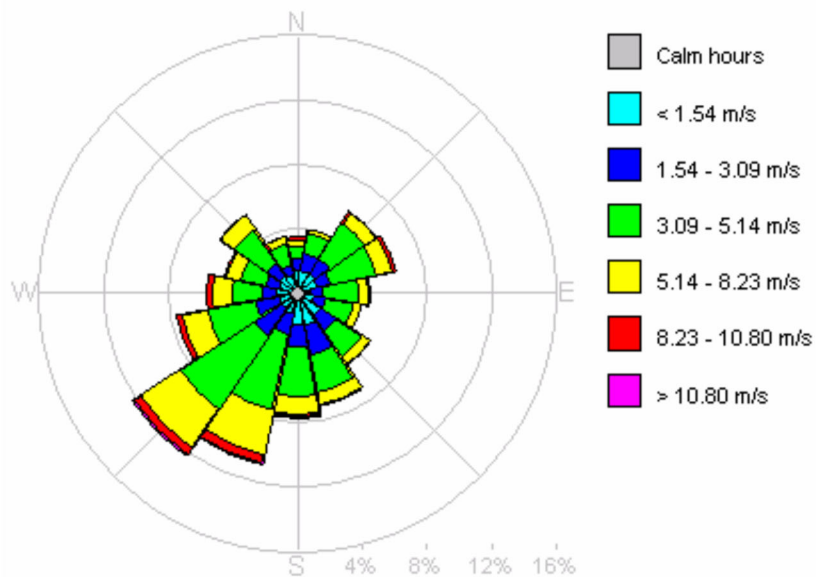
MIDLANDS REGION: LOWER TRENT

Windrose



MIDLANDS REGION: UPPER TRENT

Windrose



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 form

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			
Tuesday			D1			
			D2			
			D3			
Wednesday			D1			
			D2			
			D3			
Thursday			D1			
			D2			
			D3			
Friday			D1			
			D2			
			D3			
Additional comments						

Signed off by:

This form should be read and used in conjunction with Figure DEMP2 which shows the visual monitoring locations D1, D2, D3.

Use as many of these forms as necessary

				Date:	October 2021	
--	--	--	--	--------------	--------------	--