



Dust Management Plan

**Proposed Waste Transfer
Station, Land at end of
Falconer Road,
Haverhill, Suffolk**

**WIDDINGTON RECYCLING
LTD**

R24.12183/1/DMP/AG
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REPORT DETAILS

Client	Widdington Recycling Ltd
Report Title	Dust Management Plan for Proposed Waste Transfer Station, Land at end of Falconer Road, Haverhill, Suffolk
Site Address	Land at end of Falconer Road, Haverhill, Suffolk CB9 7UU
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Vibrock Contact	[REDACTED]

QUALITY ASSURANCE

Issue No.	Issue Date	Comments	Author	Technical Review
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1.0 INTRODUCTION

Background

- 1.1 An application is being submitted for a proposed waste transfer facility located on the land at the end of Falconer Road, Haverhill. The application area is approximately 1.4 hectares with a throughput of recycled material of 75,000tpa. The proposed site will comprise of a waste transfer facility which will process inert waste material predominantly from construction and demolition industries. The processing of such inert materials will involve the crushing, screening (via screeners and trommel) and picking via a manual picking station. The processed material will be stored in bays protected by concrete walls ready for collection. The processed material will either be applied to a further use or be sent for safe disposal. The site will also have a weighbridge, welfare facilities, rainwater collection tank and a concrete wall around the perimeter of the proposed site between 2m and 4m in height.
- 1.2 The proposed development has the potential to generate dust and other airborne pollutants in the immediate vicinity of the operations. The likelihood of problems caused by such pollutants will be largely influenced by the effectiveness of on-site environmental control.
- 1.3 This Dust Management Plan (DMP) is to accompany an Air Quality Impact Assessment which is being submitted with the planning application. The assessment has concluded that with good practice dust control measures that air quality effects from the proposed waste transfer station are predicted to be not significant. It was also concluded that PM₁₀ and NO₂ concentrations generated by traffic when the site is operational would have a negligible effect on nearby sensitive receptors. The document concludes that the air quality impacts from the proposed new development are considered 'not significant'.
- 1.4 A recognised technique for preventing complaints of dust nuisance from a new development is to prepare a DMP. The DMP outlines the overall approach taken by a site operator to ensure that dust emissions are minimised and any dust problems are satisfactorily dealt with.
- 1.5 The benefits of such a Scheme are four-fold:
 1. Improved performance through a reduction of dust levels on-site and off-site, and a reduction in the number of complaints received;
 2. Development of best practice by documenting the processes used to manage dust arising from construction activities, together with outcome and performance;
 3. Documentation of processes which can be integrated across a site or range of sites offering a standardised approach; and
 4. Written procedures for reporting any dust events enabling any issues to be managed, reviewed and audited both internally by the operator, and externally by regulators.

Location

- 1.6 The waste transfer facility application site is surrounded by industrial sites to the immediate north and east, with a residential area of the market town of Haverhill to the west. The local nature reserve site of Haverhill Railway Walks separates the application site from the residential area.
- 1.7 There are no AQMA's declared within 1km of the application site.
- 1.8 There are no Sites of Special Scientific Interest (SSSI) within 1km of the application area. There is one ecological receptor. This is the Local Nature Reserve site of Haverhill Railway Walks which is an area that follows the old railway, which is covered in scrub and larger trees, providing a wildlife corridor.

2.0 DUST SOURCE IDENTIFICATION AND CONTROL

2.1 Introduction

- 2.1.1 Dust is a generic term covering particles of different compositions, shapes and sizes. It is generally defined as particles below 75 µm in diameter which settle out under their own weight, but remain suspended for some time.
- 2.1.2 Smaller particles (such as PM₁₀ – ≤10 µm in diameter) remain airborne for longer and have the potential to travel greater distances. These particles can contribute to increased ambient concentrations of suspended particulates which is associated with a range of health effects.
- 2.1.3 Coarse dust particles (>30 µm), which are generally accepted to make up the greatest proportion of dust emitted from mineral workings, tend to result in adverse impacts within 100m of the dust source(s) and can lead to disamenity due to the visible soiling of surfaces.
- 2.1.4 Dust emissions from minerals and recycling sites can occur during the processing, handling and transportation of aggregates. Emissions can vary substantially from day to day, depending on the level of activity, the type of operations being undertaken, and the weather conditions.
- 2.1.5 The main air quality impacts that arise from aggregates processing/recycling activities are dust deposition, visible dust plumes, increase to PM₁₀ concentrations, and an increase to NO₂ concentrations.
- 2.1.6 An air quality assessment will identify human and ecological receptors that may be susceptible to adverse effects if a new development is given permission.
- 2.1.7 An air quality assessment was carried in conjunction with this dust management plant as part of the planning application for the new development.
- 2.1.8 Dust impacts from materials handling, on-site transportation, off-site transportation, mineral processing and stockpiles and exposed surfaces are detailed in this assessment. The risk of potential dust impacts from such sources have been categorised as a small risk. The potential impact of dust on human health and ecological receptors has been categorised as a negligible risk from the proposed new development. These risks are based on no mitigation measures being used to control dust emissions.

2.2 Controls

2.2.1 Within the UK there are no definitive limits on what would be considered as unacceptable nuisance dust levels. This is largely due to the difficulty in accurately determining human response to dust accumulation and soiling. Whilst a number of "custom and practice" thresholds are in use it is recognised that effective dust control is best achieved by the implementation on-site of best practice mitigation techniques.

2.2.2 The following mitigation measures will be undertaken at the site.

Site Operation	Dust Control Measures
Materials Handling	<ul style="list-style-type: none">– Handling shall be minimised and drop heights reduced where possible.– In dry, windy conditions restrict handling to materials that are of a low moisture content where possible.– Materials likely to generate dust should be conditioned with water prior to material transfer.– Any spillages or accumulations of loose material will be cleared promptly.– Where water is used as a method of dust suppression, there shall be an adequate supply of water and adequate frost protection.
On-site Transportation	<ul style="list-style-type: none">– All site traffic shall keep to designated routes.– Site route distances will be minimised and located in positions which are remote from sensitive boundaries where possible.– Abrupt changes in horizontal and vertical alignment of site routes shall be avoided.– Site speed limit of 10mph shall be always adhered to.– Mobile plant exhausts and cooling fans will be discharged away from the ground to prevent dust mobilisation.– Vehicles shall be evenly loaded to avoid spillages.– In dry conditions site routes shall be kept damp/wet by fixed sprays.– Where water is used as a method of dust suppression, there shall be an adequate supply of water and adequate frost protection.

Site Operation	Dust Control Measures
Mineral Processing	<ul style="list-style-type: none">– Unloading processes at raw material surge piles will have drop heights reduced– If possible materials shall be dampened prior to any crushing or grinding processes.– Any external conveyors will be covered i.e. use of wind boards.– Drying, grinding and milling processes should take place within fully enclosed structures.– Fixed cladding and housing shall be inspected and cleaned as a matter of routine and repaired as required.– Any dust suppression or extraction systems shall be used when processing is taking place.– Adequate procedures shall be in place for start-up, shut-down and emergency shut-downs when high dust emissions can occur.– Where water is used as a method of dust suppression, processes should have an adequate supply of water and all water suppression systems should have adequate frost protection.
Stockpiling/Exposed Surfaces	<ul style="list-style-type: none">– To reduce the effects of wind blow, any spillages or accumulations of loose material will be cleared promptly.– Where possible, material will be stored in the designated storage bays– The height of stockpiles should be kept to a minimum and additional screening provided in exposed areas.– The surfaces of stockpiles in the open shall be sprayed as necessary and shall be managed to maintain a smooth profile.– During dry conditions, unpaved circulation areas shall also be watered using fixed sprays– Where water is used as a method of dust suppression, processes should have an adequate supply of water and all water suppression systems should have adequate frost protection.

Off-site Transportation (e.g. leading to track-out onto external road network)	<ul style="list-style-type: none">– All site traffic shall keep to designated routes.– Roadways and any other area where there is regular movement of vehicles shall have a hard surface capable of being cleaned or kept wet. These surfaces shall be kept in good repair and have adequate drainage to avoid pooling of water.– All HDVs carrying materials or other potentially dusty material into or out of the site shall be securely sheeted.– A road sweeper shall be deployed on a regular basis to clean the access road and the site entrance. Further deployments will be made promptly in the event of spillages or other accumulations. The routes and schedules for road sweeping shall be reviewed and re-defined as necessary.– Where water is used as a method of dust suppression, there shall be an adequate supply of water and adequate frost protection.
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3.0 SENSITIVE RECEPTORS

3.1 Site setting

3.1.1 The proposed waste transfer station at Falconer Road, Haverhill site layout is provided in Appendix 1. The application site is located amongst industrial premises, with a residential area to the west, see Appendix 1.

3.2 Dust Sensitive Receptors

3.2.1 The following table details the dust sensitive human and ecological receptors in the vicinity of the site. A plan showing the location of each assessment location is provided in Appendix 2.

Name	Direction from site	Approximate distance to site boundary (m)
Human Receptors		
Thistledown	Southwest	160
28 Ashlea Road	West	50
Cambridge House	Northwest	70
Worcester House	Northwest	105
1 Sturmer Road	North	165
5 Sturmer Road	North	155
1-6 Charrington Close	North	115
Charter House Industrial Estate	North	20
Sturmer End Industrial	North	5
Maple Park	East	25
Haverhill Business Park	Southeast	55
Spring Rise	East	5
Ecological Receptors		
Haverhill Railway Walks - South	South	5
Haverhill Railway Walks - South	West	5

- 3.2.2 The closest human receptors are the industrial properties that surround the application site. The closest ecological receptors are the local nature reserve site of Haverhill Railway Walks, which is the rural land that separates the residential area to the west from the industrial premises.
- 3.2.3 Areas representative of these human and ecological receptors will continue to be routinely monitored for dust deposition.

4.0 WEATHER CONDITIONS

- 4.1 The generation and dispersal of dust is highly dependent upon meteorological conditions prevalent at the time. The highest potential for dust emissions occurs on dry windy days and the risk of dust deposition at a particular location is determined by the frequency of winds blowing towards it from a dust generating activity.
- 4.2 A proportional wind rose is presented in Appendix 3 and is representative of the conditions experienced in the vicinity of the site. All management staff will familiarise themselves with the typical wind conditions at the site in order to identify where site activities may have the potential to impact on dust-sensitive premises in the vicinity.
- 4.3 The matrix shown below will be used to identify when there is an increased risk of wind-blown dust.

Wind Conditions				Precipitation		
mph	m/s	Beaufort Wind Force Scale		Dry	Showers /Damp Ground	Rain
		Wind Force (Description)	Observations			
0-3	0-1.5	0-1 (Calm/Light Air)	Smoke rises vertically or wind direction shown by smoke drift but not wind vanes.	Low	Low	Low
4-12	1.5-5.5	2 – 3 (Light/Gentle Breeze)	Wind felt on face; leaves rustle; wind vanes move. Leaves and small twigs in motion; light flags extended.	Medium	Low	Low
>13	>5.5	>4 (Moderate Breeze and above)	Raises dust and lose paper; small branches moved. Branches in motion and trees begin to sway.	High	Medium	Low

- 4.4 In combination with the above risk matrix, activities with the potential to cause dust emissions will be monitored via daily visual inspections. In addition, site personnel will also be instructed to inform the Site Manager whenever visible dust emissions are observed, or appear likely to occur, as a result of any operation or process. Should visible dust across site boundaries be generated, the relevant Manager will act promptly to identify the source(s) of the dust and take the necessary corrective action appropriate to the above risk category as follows:

High	Where possible, the Site Manager will immediately <u>suspend</u> those operations until either effective remedial actions can be taken or the weather conditions improve.
Medium	Where possible the Site Manager will immediately <u>modify or reduce</u> those operations until either effective remedial actions can be taken or the weather conditions improve.
Low	Staff should remain vigilant and <u>continue</u> to carry out visual checks and normal dust control procedures.

5.0 MANAGEMENT, TRAINING AND RESPONSIBILITY

- 5.1 The Site Manager will have responsibility for ensuring that nuisances and hazards arising from the operations due to dust are minimised, and that the measures outlined in this action plan are implemented, documented and subject to ongoing evaluation and review.
- 5.2 The company identifies training requirements of its employees and provides suitable resources to ensure they have the required knowledge, skills and expertise to carry out their duties. This includes their roles and responsibilities in complying with the operator's management systems and all relevant legislation. This is achieved through induction, training for new employees, awareness training for all and specific training as required. All staff and sub-contractors will be formally briefed on the contents of this DMP. The operator will maintain a statement of training requirements for each job role and keep a record of the training received by each member of staff.
- 5.3 Contractors and all persons performing tasks on behalf of the Company will also be made aware of the DMP and relevant management system requirements and will be competent in the roles undertaken.
- 5.4 Operatives will be trained to employ appropriate techniques to keep dust emissions to a minimum and will be effectively supervised by the Site Manager to ensure that best working practice in respect of dust minimisation is followed. All operational staff and contractors will be responsible for reporting any dust problems directly to the Site Manager.
- 5.5 All staff at the site are made fully aware of the need to be constantly vigilant about dust control and management procedures. To minimise the risk of emissions, emphasis will be given to:
 - Awareness of their responsibilities for avoiding dust nuisance;
 - The proper use of equipment;
 - The timely reporting of dust issues directly to the Site Manager; and
 - Actions to minimise dust emissions during abnormal operating scenarios that could give rise to dust issues.

6.0 INSPECTION AND MAINTENANCE

- 6.1 The effective control of dust emissions requires the maintenance and proper operation of all plant and equipment including the buildings within which plant/equipment may be located and the equipment concerned with the control and suppression of dust.
- 6.2 A programme of planned maintenance will be carried out on all plant and equipment that has the potential to generate dust emissions in accordance with the manufacturers' recommendations.
- 6.3 Regular daily inspections will be conducted by designated site personnel with inspections undertaken more frequently during dry windy conditions to ensure that any dust sources associated with the operation are identified and dealt with promptly.
- 6.4 In the event of a failure of dust mitigation measures from the site, for example in extreme weather conditions, the dust generating activity shall be temporarily suspended if practicable, until appropriate dust mitigation is implemented or until a change in weather condition occurs.
- 6.5 The operator shall keep records of inspections, tests, malfunctions and maintenance tasks with these records held on site and available for inspection by the regulator upon request.
- 6.6 The following outlines the key inspection and maintenance procedures that will be employed at the site:
 - Where possible, preventative maintenance shall be identified and undertaken;
 - Dust suppression systems should be kept well maintained, particularly in dry conditions when there use is likely to be increased;
 - Water levels in dust control systems and plant shall be checked prior to use, and topped up when required;
 - During the winter months and periods of below freezing weather, the water systems shall be checked prior to use. Mobile plant shall be located away from wind exposed areas and covered where possible. Checks will include the identification of ice deposits on nozzles and frozen pipe work;
 - Maintenance parts will be continually reviewed to ensure that essential spares and consumables relevant to dust control are kept in stock on site or are available at short notice in order to rectify breakdowns rapidly;
 - The Site Manager shall be informed of any issues that arise from inspections performed. Operations may be curtailed if dust control equipment is not adequately performing.

7.0 INCIDENT MANAGEMENT

- 7.1 The risk of incidents will be minimised by effective maintenance of equipment and good housekeeping. The site will maintain stock levels of required spares to ensure that critical plant can be repaired quickly. The operator shall keep a list of key plant and have a written procedure for dealing with its failure.
- 7.2 In the event of an incident, malfunction or breakdown causing significant dust pollution, the Site Manager will take immediate action and the plant/activity will be reduced, modified or stopped until effective controls are in place.
- 7.3 The operator shall keep records of all incidents and associated corrective actions which will be held on site and available for inspection by the regulator upon request.
- 7.4 The emergency or incident response procedure will be issued to all site personnel and displayed widely around the site. The contact details of key personnel and organisations will be listed in the procedure.
- 7.5 In the event of any emergency or unforeseen circumstances arising, every effort will be made to ensure that the work in question is completed as quickly as possible.

8.0 COMPLAINTS

8.1 Procedure

- 8.1.1 Should a complaint be received relating to dust emissions, the complaint will be recorded in a log which will be available for inspection by the regulator upon request. An example dust complaint reporting form is provided in Appendix 4.
- 8.1.2 Members of the public will be able to contact the Operator via information clearly displayed on a site notice board which will also include emergency contact details.
- 8.1.3 All complaints will be investigated and should clear impacts of dust from site operations be identified then the operator will implement suitable dust control measures in consultation with the regulator.
- 8.1.4 During any investigation and subsequent remedial action, the complainant will be kept updated of progress.

8.2 Communication

- 8.2.1 Prior to any operation which has the potential to cause a higher-than-normal dust level, local residents shall be made aware by providing one-week notice in writing.
- 8.2.2 A site contact board shall be used to provide residents with the proposed commencement date and estimated duration of the specific operation. A contact enquiry line number shall be provided when site works are in progress to deal with enquiries and complaints from the local community.

9.0 DUST MONITORING

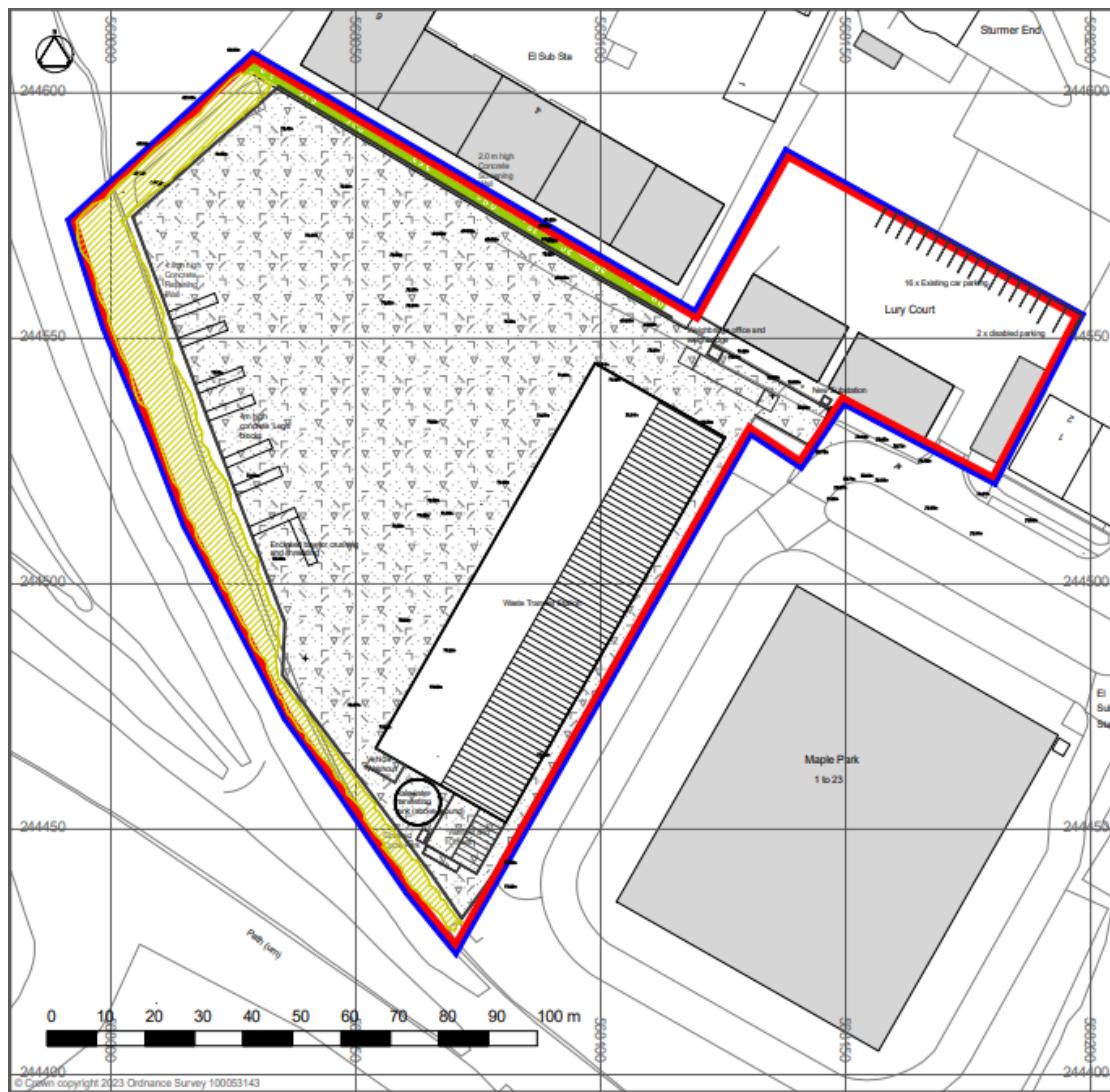
- 9.1 Monitoring of dust mass deposition levels will be necessary in the event of dust complaints from nearby sensitive properties. Such monitoring is to be undertaken using a dry foam frisbee type deposit dust gauge (specification detailed in Appendix 5) located North, East, South and West of the site boundary; or a representative location of the human/ecological receptor in question (whichever method is more appropriate).
- 9.2 In the scenario where routine monthly dust monitoring is required – sample(s) will be analysed via a method of filtration and dust deposition reported as mg/m²/day. If the result of such dust monitoring exceeds the typically applied custom and practice threshold of 200 mg/m²/day a review of site activities shall be undertaken to identify the potential cause of the exceedance. Any additional control measures required to reduce the risk of further exceedences shall be identified and implemented.
- 9.3 Any dust monitoring records and results will be made available to the regulator upon request.

10.0 REVIEW

- 10.1 The Dust Management Plan will be reviewed and updated, as appropriate, in consultation with the regulator.
- 10.2 In particular, the scheme should be reviewed:
 - following the receipt of any justified complaints relating to dust;
 - following a measured exceedance of the recommended dust deposition limits;
 - following the addition of new plant/processes or modification to existing plant; or
 - when a new sensitive receptor is introduced in the vicinity of the site.
- 10.3 During a review, particular reference shall be made to the following:
 - the results of previous compliance monitoring;
 - monitoring frequency;
 - measurement locations;
 - complaint record;
- 10.4 The process would also give an opportunity to consider if there have been any advances in the control of dust that could beneficially be implemented at this site.
- 10.5 Where any amendments are made to the Dust Management Plan as a result of the periodic review, the document should be updated and re-issued to all relevant parties.

APPENDIX 1

Proposed Site Layout



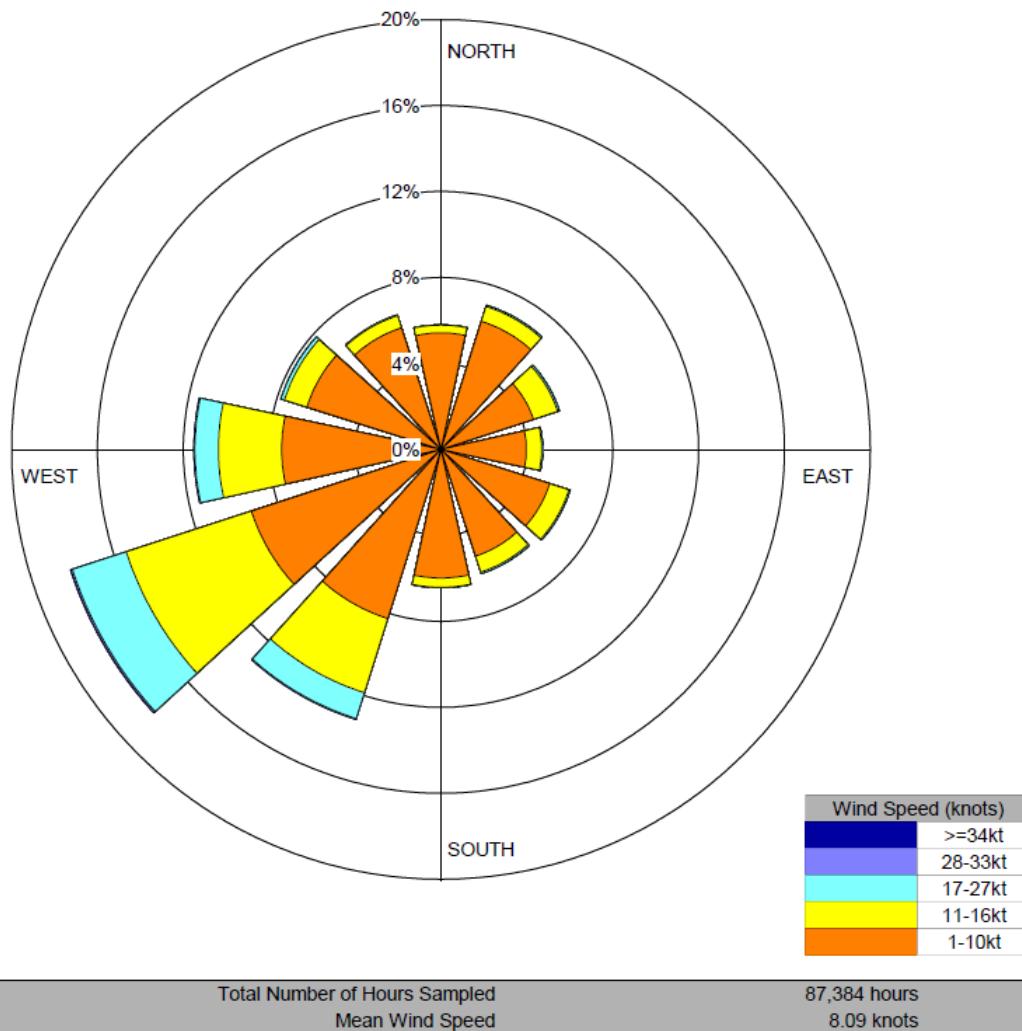
APPENDIX 2

Assessment Locations



APPENDIX 3

Wind Rose



APPENDIX 4

Example Dust Complaint Reporting Form

Dust complaint report form		Date:	
Name and address of complainant:			
Tel no. of complainant:			
Date and time of complaint:			
Complainants description:			
Any other relevant information:			
Dust sources operating at time of complaint:			
Operating conditions at the time of complaint:			
Weather conditions at the time of complaint:			
Action taken:		Date:	Signed:
Final Outcome:			
From completed by:		Signed:	

APPENDIX 5

Dust Monitoring Equipment

Dry Foam Frisbee Type Dust Deposit Gauge

CONTENTS OF KIT

- Plastic-coated collapsible steel support structure with tripod base and ground stakes
- Anodized Aluminium frisbee-type collector with 227 mm diameter aperture
- 5-litre (optional 10-litre) HDPE collecting bottle
- Stainless steel/nylon bird guard
- Polyester foam dust trap
- Spare foam dust trap and collecting bottle
- Optional cylindrical sticky pad adapter
- Cleaning Brush and 2.5mm Allen Key



BENEFITS

- Higher collection efficiency and considerably lower cost than the BS1747 Part 1 deposit gauge
- Bird guard reduces risk of polluted samples
- Foam dust trap reduces sample contamination from falling leaves, etc
- Large capacity collecting bottle will accommodate 120 mm rain (double for the 10-litre bottle) and has wide neck permitting easy access for cleaning and removal of deposits
- Tripod base, which can be spiked down, ensures stability on uneven surfaces
- Plastic coating and anodizing gives durability in external environments
- Optional cylindrical sticky pad adaptor 100 mm dia x 150 mm high can be clamped to the stand, permitting directional sampling
- Spare parts and repairs available

APPENDIX 6

Terminology

Annoyance (Disamenity)

Loss of amenity due to dust deposition or visible dust plumes, often related to people making complaints, but not necessarily sufficient to be a legal nuisance. A negative element that detracts from the overall character or enjoyment of an area.

Deposited Dust

Dust that is no longer in the air and which has settled out onto a surface. Deposited dust is also sometimes called amenity dust or nuisance dust. Usually quantified in terms of rate of dust fallout to a nominally horizontal surface in mg/m²/day.

Dust

Solid particles that are suspended in air, or have settled out onto a surface after having been suspended in air. Often defined as particles up to 75 µm in diameter but typically include particles that give rise to soiling and to human health and ecological effects.

Dust Soiling

The effect of deposited dust upon surfaces, which can lead to annoyance. Can be measured in terms of Effective Area Coverage (EAC%) or Soiling Units (su)

Fugitive Dust

Fugitive emissions are those which are not collected and released under controlled physical conditions, e.g. emitted from a stack. On a mineral site, dust emissions occur as a result of many site activities and are typically fugitive.

PM Particulate Matter

PM₁₀ is airborne particulate matter with an aerodynamic diameter less than 10 microns (µm); PM_{2.5} is less than 2.5 µm.

Receptor

A location itself, or as a proxy for people, which might be affected by dust emissions. Human receptors include locations where people spend time and property which may be damaged by dust. Ecological receptors are habitats that might be sensitive to dust.

Risk

The likelihood of an adverse event (e.g. dust impact) occurring.

Track-out

The transport of dust and dirt from the mineral site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network.

Wind-blown Dust

Dust which becomes airborne as a result of increased wind speed alone, i.e. could occur when no activity is carried out on site.