WILLIAMS PLANT HIRE LTD

WASTE TRANSFER STATION

ABERBECHAN WHARF
NEWTOWN
POWYS
SY16 3AW

DUST MANAGEMENT PLAN

Version 1.0

Contents

1) Introduction

1.1 Background

Williams Plant Hire Ltd have been operating a waste transfer facility at Aberbechan Wharf since 2004. In addition to the permitted activities exemptions were registered for processing of aggregates and some storage under the 1994 Waste Management Regulations. Since the implementation of the latest exemption regime this has restricted site activities and the permit variation is to allow previous activities to be covered by the varied permit. Williams Plant Hire Ltd intends to produce secondary aggregates under the WRAP Protocol. Aggregate is processed by crushing and screening and tested to show compliance with Highways Specifications and sold for use off site as a product. An application has been made for an environmental permit variation to allow excavated waste materials to be brought to the site for processing under the WRAP protocol to produce secondary aggregates and soils.

The site is located in a rural location where the waste arisings will be limited due to the limited amount of development that takes place nearby. There is limited storage available for aggregates and soils and processing operations will only be carried out under suitable conditions and when there is enough material to process. Processing is not likely to be carried out more than 6 times per year.

This plan covers the reception of wastes, stockpiling, processing and loading of materials leaving the site and will be reviewed on a regular basis and at least once per year. If improvements can be introduced to working practices then they will be incorporated into the plan.

1.2 Methodology

This application is to vary the existing permit to increase the area and allow for the storage and processing of specified wastes on hardstanding. A bespoke Locational Risk Assessment has concluded that dust could be a risk for the environmental/ecological receptors and human receptors.

Due to the tonnages which this site is likely to accept and the frequency of crushing/screening operations it is considered to be appropriate to undertake a qualitative assessment to identify those areas of concern regarding dust and to management those areas.

1.3 Responsibilities

The site is operated by Williams Plant Hire Ltd and Keith Williams will be responsible for managing the day to day operations and compliance. In his absence Andrew Williams or a nominated person who is fully conversant with the EMS will direct operations.

1.4 Site Location

Drawing CEC/WPH/01 show the location of the site and the sensitive environmental receptors.

1.5 Sensitive Receptors

The following table shows the distances to the nearest sensitive receptors from the boundary of the site

Table 1

Feature	Distance (approximate) metres	Direction From the Site to Receptor
Montgomery canal SPA and SSSI	4m approx. 25-50m from the processing area	NNW
River Severn	10m	E
Houses at Aberbechan	80m to 190	W and WSW

The aim of this plan is to prevent dust emissions affecting receptors and leaving the site boundary.

2) Potential Sources of Dust, Pathways and Receptors

2.1 Sources of Dust

Dust is particulate matter between 1 and 75 micrograms. Once airborne dust is dispersed by air currents and can be deposited over a wide area, but generally most of the dust is deposited within 100m of the point of emission.

Dust can also be generated by the action of wind on surfaces and through the use of plant for crushing, screening, plant movement, vehicle tipping and the loading of vehicles and from stockpiled materials.

At Williams Plant Hire Ltd the significant potential sources of dust as identified by the risk assessment are :-
Crushing and screening operations
Stockpiles
Sorting operations within the building
Site Roads

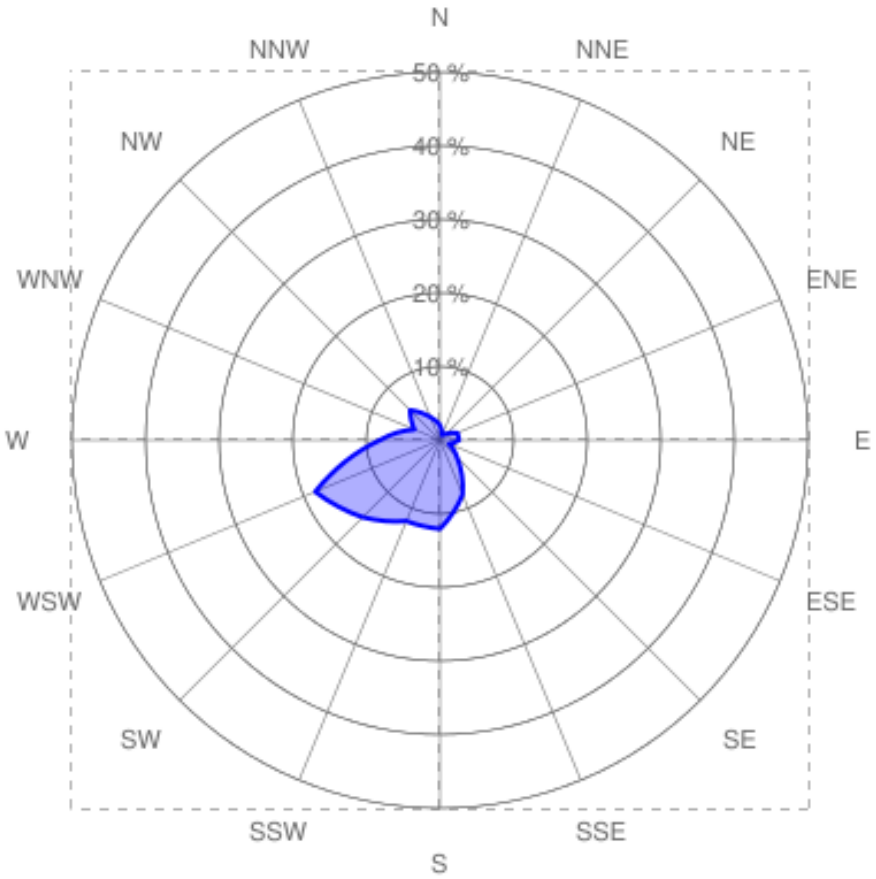
2.2 Wind Direction - Pathway

The pathway for dust transport is airborne. The prevailing wind is from the West South West but can come from any direction. A windsock is in position so that staff can see which way the wind is blowing to take appropriate action such as suspending certain operations depending on the wind direction and speed.

The windrose for the site location is shown as Figure 1 and winds from various directions are discussed in relation to the areas that could be impacted from a particular direction and the site features that will reduce the potential for dust to leave the site.

The site itself is protected from the wind from easterly directions due to the trees along the banks of the River Severn and from the North West by tress along the Montgomery Canal. The site buildings to the South of the Montgomery Canal also act as a windbreak to winds from the West and North West, see Table 2 below.

Figure 1 SHAWBURY WEATHER STATION WIND ROSE
Drawing no CEC/WPH/04



Direction	Percentage
E	2.58
ENE	2.55
ESE	1.33
N	2.07
NE	1.25
NNE	0.76
NNW	3.39
NW	5.75
S	12.06
SE	3.24
SSE	8.02
SSW	11.9
SW	14.82
W	8.17
WNW	3.77
WSW	18.34

Wind direction and potential receptors
Table 2

Wind From Direction	% of time	Downwind receptor	Distance to receptor boundary from processing and stockpile area	Protection from wind
N	2.07	Land to the South of the permit boundary	25	Upwind tree belt and partial protection from site buildings
NNE	0.76	Land to the South of the permit boundary	30	Upwind tree belt
NE	1.25	Land to the South of the permit boundary	35	Upwind tree belt
ENE	2.55	Plant Hire Yard	50	Upwind tree belt
E	2.58	Plant Hire yard and Aberbechan Housing	55	Upwind tree belt
ESE	1.33	Plant Hire Yard, Montgomery canal	45	Upwind tree belt. Downwind buildings and trees protect the Montgomery Canal

SE	3.24	Montgomery canal	30	Upwind tree belt. Downwind buildings and trees protect the Montgomery Canal
SSE	8.02	Montgomery canal	30	Upwind tree belt. Downwind buildings and trees protect the Montgomery Canal
S	12.06	Montgomery canal	40	Upwind tree belt. Downwind buildings and trees protect the Montgomery Canal
SSW	11.9	Montgomery canal	65	Downwind tree belt
SW	14.82	River Severn	10	Downwind tree belt
WSW	18.34	River Severn	10	Downwind tree belt
W	8.17	River Severn	10	Plant Hire yard buildings, upwind tree belt and downwind tree belt
WNW	3.77	River Severn	10	Plant Hire yard buildings, upwind tree belt and downwind tree belt
NW	5.75	River Severn	15	Plant Hire yard buildings, upwind tree belt and downwind tree belt
NNW	3.39	River Severn, land to South of permit boundary	20	Plant Hire yard/ waste storage/ processing buildings, upwind tree belt and downwind tree belt

Note the percentage missing is due to no wind.

The distances above relate to the distance from the proposed permit boundary to the edge of the designated receptors as shown on Plan no CEC/WPH/01.

2.3 Acceptable Wind Directions for Waste Processing

As waste processing (crushing and screening) will only take place sporadically and generally less than 6 times per year, the operator is able to choose days when the conditions are unlikely to cause dust emissions to leave the site and affect the local sensitive receptors.

A wind sock is in position so that staff can see which way the wind is blowing and so take appropriate action such as not commencing operations or suspending certain operations depending on the wind direction and speed.

Prior to commencing crushing and screening operations, the wind direction and strength will be recorded using the Beaufort Scale.

When the winds are Force 2 or below then any wind direction will be acceptable for waste processing, providing that operations cease if visible dust being generated leaves the site boundary.

If the wind strength is Force 3 and it is raining then any wind direction will be acceptable for waste processing. However heavy rain and strong winds do not make ideal conditions for processing aggregates.

If the wind strength is Force 3 or above no waste processing will take place.

2.4 Impacts from Dust

Dusts generated on the site could potentially impact the sensitive sites through nutrient enrichment, smothering, and fine sediment in the watercourse.

Waste Types to be Accepted For processing outside the Buildings

Waste types	
Exclusions Wastes having any of the following characteristics shall not be accepted: • Consisting solely or mainly of dusts, powders or loose fibres • Hazardous wastes • Wastes in liquid form	
Waste Code	**Description**
01	**WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMICAL TREATMENT OF 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 07
01 04 09	waste sand and clays
10	**WASTES FROM THERMAL PROCESSES**
10 11	**wastes from manufacture of glass and glass products**
10 11 12	clean glass other than those mentioned in 10 11 11
10 12	**wastes from manufacture of ceramic goods, brick, stiles and construction products**
10 12 08	waste ceramics, bricks, tiles and construction products(after thermal processing)
10 13	**wastes from manufacture of cement, lime and plaster products and articles and products made from them**
10 13 14	waste concrete only
15	**WASTE PACKAGING**
15 01	**packaging**
15 01 07	clean glass only
17	**CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	**wood, glass and plastic**
17 02 02	clean glass only
17 03	**bituminous mixtures, coal tar and tarred products**
17 03 02	road base and road planings (other than those containing coal tar) only
17 05	**soil (including excavated soil from contaminated sites) stones and dredging spoil**
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 08	track ballast other than those mentioned in 17 05 07
17 08	**gypsum based construction material**
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION / INDUSTRIAL WASTE**
19 12	**wastes from the mechanical treatment of wastes**
19 12 05	clean glass only
19 12 09	minerals (for example sand, stones)
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	**separately collected fractions**
20 01 02	clean glass only
20 02	**garden and park wastes**
20 02 02	soil and stones

Except for waste soils containing over 3% TOC (ie topsoils), dust from the wastes accepted could not cause enrichment. With the dust control measures outlined in this Plan dust should not leave the site boundary. If it did it would be in such low quantities that any potential risk of enrichment would be Very Low.

Dust could potential result in fine sediment in watercourses and smothering could potentially result from airborne dust falling onto watercourses, ponds or land. As this plan is designed to reduce the risk of visible dust emissions leaving the site boundary to Very Low this should not be a significant risk.

3) Dust Management Systems

3.1 Dust Assessment and Control Measures

Dust can potentially be generated through a number of operations at the site and this plan deals with ways to minimize dust generation and to prevent dust generated from impacting on the local environment.

The dust management system is to reduce the generation of dusts through good working practice and to apply dust suppression when required. Dust suppression will be water based and the site relies on a mains water supply to achieve this. Consideration is being given to collecting roofwater from adjacent buildings and this may be used as a water source in the future.

3.2 Waste Processing Operations

To produce a range of aggregate materials the imported waste materials will either need to be screened to specific sizes or crushed and screened. Both crushing and screening operations have the potential to generate dusts.

Crushing and screening operations will only be carried out in suitable weather conditions as detailed in section 2.3.

For waste sorting operations within the building good practice is used to load the trommel using a low dropping height onto the conveyor and the small amounts of dust produced are protected from wind by the building walls

3.3 Crushing.

A crusher with a mobile plant permit will be hired in when required. The crusher will have a factory fitted dust suppression system fitted. The dust is suppressed at the critical points by a fine water spray. This system will reduce the amount of dust escaping from the plant to a minimum.

Dust can also be generated when loading the crusher and all staff will be instructed to load the plant in a careful manner using the minimum drop possible from the excavator loading the material into the hopper and not overloading to bucket which can result in materials being dropped.

3.4 Screening

The screen will be loaded carefully and not overloaded as this can cause additional dust to be generated. Staff will be suitably training to ensure they comply with this method.

3.5 Site Plant and Vehicle Movements

Dust can be generated in dry conditions from mud on the site surfaces by the movement of vehicles and site plant. All plant and vehicles have upward facing exhausts in order to prevent dust being generated from exhaust emissions being directed at the ground. If necessary, fine water spray will be used to suppress dust on hardstanding and road areas.

3.6 Vehicle Unloading

Vehicles arriving at the site will be subjected to the Waste Acceptance Procedures within the EMS and any loads which are not suitable for the site will be rejected. Any loads of dusts and powders will be rejected upon arrival at the site. All loads should be sheeted on arrival.

All loads being tipped will be supervised by site staff and the driver instructed to tip the load slowly with the minimum amount of drop to the ground to reduce dust generation. Any waste arriving in skips will be tipped slowly to reduce the chance of dust being generated.

3.7 Vehicle Loading

Processed aggregates and soils/ subsoils will be loaded onto vehicles with an excavator, into the tipper body using the minimum drop required to prevent dust generation. All vehicles will be sheeted before leaving the site.

3.8 Stockpiles

If visible dust is being generated from a stockpile, dust emissions will be controlled by water sprays.

The stockpiles will be located in the area shown on Plan no CEC/WPH/02.

3.9 Monitoring and Recording

Site staff who are supervising individual waste handling/processing operations shall, during the carrying out of those operations, undertake visual monitoring of aerial emissions.

In addition, there will be a daily inspection procedure and record (SOP No.6 and QA12 in the Environmental Management System - EMS) to ensure that the correct dust management methods are being used for the weather conditions at the time. If the weather conditions change then operations will be reviewed, and changes made if needed.

On detection or notification of visible aerial emissions that are likely to be transported beyond the site boundary, immediate action shall be taken to stop the waste handling operations which are giving rise to the emissions and to suppress the aerial emission from the waste.

The incident and the remedial action shall be recorded in accordance with the EMS.

Table 3 Summary of Dust Control Measures

Area	Control Measures
Site processing – screening and crushing	Control of operations in accordance with 2.3 above ie no processing in windy conditions
Site Surfaces and Roads	Site roads will be damped down with a fine spray in dusty conditions and cleaned if necessary.
Plant and Equipment Outside of Buildings	Plant will be brushed down when needed. Only during wet or damp weather can cleaning be by using compressed air.
Outside Storage Piles	In windy conditions the surface of the stockpiles will be damped down if needed to reduce the potential for windblown dusts.
Vehicle Unloading	The majority of vehicles delivering waste will be tipper lorries. For vehicles that tip waste drivers are instructed to tip slowly to reduce dust emissions.
Vehicle Loading	Loading of vehicles shall be done by site staff and the minimum drop from the excavator will be used to minimize dust generation. All vehicles leaving the site will be sheeted.
Site Management	There is a daily inspection procedure to ensure that the correct methods are being used for the weather conditions at the time. If the conditions change then this will be reviewed and changes made. All the procedures will be reviewed and where improvements are identified then the procedures shall be updated and a record kept of the changes.

4 Site Operations

A series of Standard Operating Procedures (SOPs) are in place for all operations on the site and SOP No 6 Daily Inspections and SOP No 10 Dust

management have been produced to instruct staff of the requirements to reduce any impact from the site to within the permit conditions.

These procedures are included in the site EMS

The EMS also contains a section on staff training needs and as a result of this all staff will be trained on the implementation of the dust management plan.

6 Dust Complaints

In the event of any complaint being received then SOP14 - Complaints, shall be followed using the form QA/06 in the EMS.

In the event that the complaint is upheld site operations and procedures shall be reviewed and any changes or operational improvements shall be made to reduce the risk of dust emissions in the future.

THE BEAUFORT SCALE

Force	Mph	Description	Effects on Land
0	0	Calm	Smoke rises vertically
1	1-3	Light Air	Smoke drifts in wind
2	4-7	Light breeze	Leaves rustle, wind felt on face
3	8-12	Gentle breeze	Small twigs in constant motion, light flags extended
4	13-18	Moderate wind	Dust leaves and loose paper raised, small branches move
5	19-24	Fresh wind	Small trees sway
6	25-31	Strong wind	Large branches move, difficult to use umbrellas
7	32-38	V Strong wind	Whole trees in motion
8	39-46	Gale	Twigs break off trees, difficult to walk
9	47-54	Severe gale	Chimney pots and slates removed
10	55-63	Storm	Trees uprooted, structural damage
11	64-72	Severe storm	Widespread damage
12	>73	Hurricane	Widespread damage, (rare)