DUST & EMISSIONS MANAGEMENT PLAN

Oyster Haven, Haven Road, Hythe Quay, Colchester, Essex, CO2 8HT

Kingdom Recycling Limited

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Oaktree Environmental Ltd

Waste, Planning & Environmental Consultants

Oaktree Environmental Ltd, Lime House, 2 Road Two, Winsford, Cheshire, CW7 3QZ
Tel: 01606 558833 | E-Mail: sales@oaktree-environmental.co.uk | Web: www.oaktree-environmental.co.uk
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1 Introduction

1.1 General

1.1.1 Oaktree Environmental Ltd have been instructed by Kingdom Recycling Limited (the operator) to prepare this Dust & Emissions Management Plan (DEMP).

1.1.2 This DEMP assesses the risk of dust associated with the storage and treatment of waste at Oyster Haven, Haven Road, Hythe Quay, Colchester, Essex, CO2 8HT and provides mitigation and control measures implemented in relation to dust from waste operations undertaken at the site.

1.1.3 The permit boundary is illustrated in green on Drawing No. 3578/OYS/02 Permit Boundary Plan. All reference to 'the site' in this DEMP refers to the associated operations, infrastructure, plant, and equipment within this boundary.

1.1.4 The following references which are used throughout this DEMP are defined below:

- **Prolonged rainfall** = 1 in 100-year flood event or <3 wet days.
- **High winds** = where wind speed reaches 4 on the Beaufort Wind Scale or if dust is being emitted beyond the site boundary following routine site inspection.
- **Dry Weather** = Three dry days or weather conditions exceeding 75^{o}F for more than one day.
- **Severe weather conditions** = The above and including dense fog, hail or snow.
- **Significant levels of dust** = Activities with the potential to emit dust beyond the site boundary.

1.2 Permit & Facility Overview

1.2.1 The site is operated in accordance with Environmental Permit (EP) ref. CP3129SQ. The EP authorises a household, commercial and industrial (HCI) waste transfer station and physical treatment facility.

1.2.2 This DEMP has been prepared for the purpose of a permit variation application to vary the EP from standard rules to bespoke and include the shredding of wood and residual waste as a treatment activity.

1.2.3 Treatment activities will consist of the following:

a) Sorting / manual separation (with loading shovel/360^{o} excavator or by hand).
b) Screening (by using appropriate mechanical screen / trommel).
c) Shredding (by using appropriate mechanical plant and equipment).
d) Baling (by using appropriate mechanical plant and equipment).
e) Compacting (by loading shovel / 360^{o} excavator).
f) Storage (prior to removal).

1.3 Content of the Dust & Emissions Management Plan

1.3.1 This DEMP provides detailed information on the sources, risks, and mitigation measures relating to the potential of dust emissions from operations undertaken on site. This DEMP has been prepared in accordance with the following guidance:

a) Environment Agency guidance “Control and monitor emissions for your environmental permit” last updated 24 November 2022.

1.3.2 This DEMP outlines the main sources of potential dust emissions, the mitigation measures implemented on site to minimise the risk of dust emissions as well as information that allows the operator to implement an action plan should site operatives detect the presence of airborne dust escaping beyond the site boundary and or receive complaints of dust.

1.3.3 The above guidance will be complied with through the implementation of this DEMP and procedures outlined within. In addition, the site is operated in accordance with a fully comprehensive Environmental Management System (EMS) which also contains procedures relating to dust.

1.4 Responsibility for Implementation of the DEMP

1.4.1 Ultimately the site manager is responsible for the implementation of the DEMP and for ensuring the mitigation strategies outlined in this management plan are in place and adhered to. Where the site manager is unavailable to oversee the implementation of dust suppression and mitigation strategies, a suitably experienced site operative or the technically competent manager (TCM) is delegated responsible.

1.4.2 All staff members have received the necessary training to deliver dust suppression measures and understand the contents and requirements detailed within this DEMP. Staff will undergo refresher training every 12 months or in the event of a dust complaint / issue or the implementation of operational changes.

1.5 Reviewing and monitoring this DEMP

1.5.1 This DEMP will be reviewed on a biannual basis (every two years) or when a change in operation is deemed to have a potential effect on increasing dust emissions which could include any of the following:

a) Changes to operations (additional treatment activities).
b) Changes to site infrastructure (construction / removal of buildings).
c) Following a report or incident of dust emissions emitting beyond the permit boundary.

1.6 Relevant Legislation

Air Quality Management Area (AQMA)

1.6.1 The system of local air quality management (LAQM) was introduced under the Environment Act 1995. LAQM requires local authorities to periodically review and assess the current and future quality of air in their areas. Where it is determined that an air quality objective is not likely to be met within the relevant time period, the authority must designate an AQMA.

1.6.2 The site is not located within an AQMA.

Low Emission Zone (LEZ)

1.6.3 A LEZ is an area that has restrictions on the type and age of vehicles permitted in it, this prevents high level of pollution emitting vehicles from entering and operating within the zone with the aim of improving air quality. High polluting vehicles are required to pay a charge to enter the zone.

1.6.4 The site is not located within a low emission zone.

1.7 Hours of Operation

1.7.1 The site will be open during the following hours for the delivery, receipt, and processing of waste:

Monday to Friday	07:00 – 18:00
Saturday	07:00 – 14:00
Sundays, Bank/Public holidays	Closed

1.7.2 The only activities on site which will be permitted outside of these hours are onsite maintenance works, emergency deliveries of waste/plant/machinery and general office use.

1.7.3 During times where the site is closed or not in operation, the site will be locked and secured to prevent unauthorised access.

2 Sensitive Receptors

2.1 Meteorology

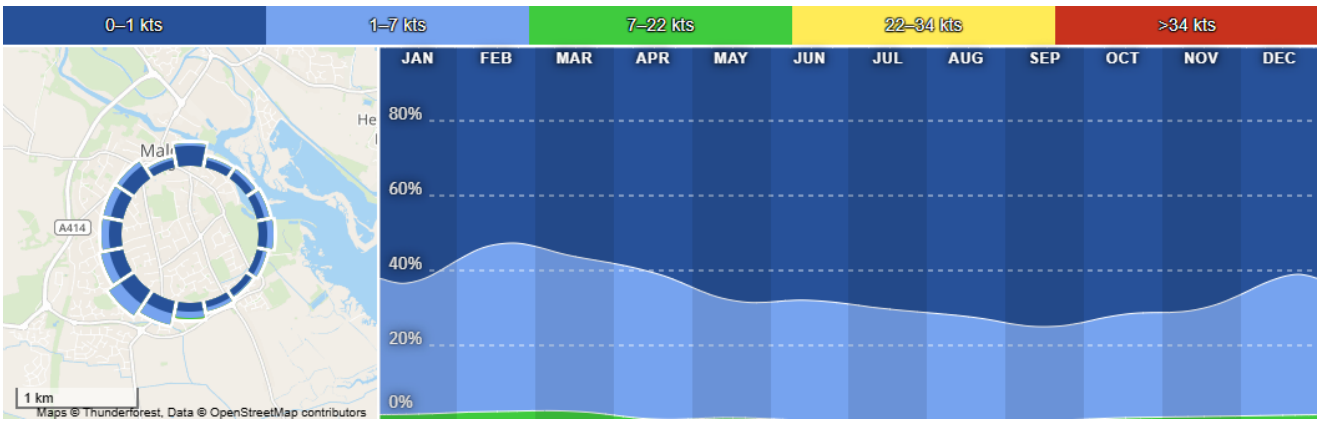
2.1.1 Unlike many other atmospheric pollutants, the generation of dust is particularly dependent upon weather conditions.

2.1.2 The prevailing meteorological conditions at any site will be dependent upon many factors, including its location in relation to macroclimatic conditions as well as more site-specific microclimatic conditions. The most significant meteorological factor is the predominant wind direction and speed.

2.1.3 It is considered that receptors downwind of the site will have the highest potential to be impacted by dust potentially being emitted beyond the permit boundary as dust will be transported in the direction of the prevailing wind at the time of occurrence.

2.1.4 Wind speed and direction data have been obtained from Maldon / Blackwater weather station which is considered to be representative of the typical conditions at the site. Daily recorded data for the period between 12/2012 – 08/2025 indicates that the predominant wind direction is from the southwest blowing towards receptors in the northeast, see Figure 2.1 below.

Figure 2.1 - Windrose from Maldon / Blackwater weather station



2.1.5 In accordance with the wind rose data in Figure 2.1 above, the predominant wind direction blows towards the northeast. Receptors northeast of the site includes the University of Essex and beyond this large agricultural / open fields. A full list of sensitive receptors within

1km of the site that are considered would be impacted by the impact of dust emitting beyond the permit boundary are shown in Table 2.1 overleaf.

2.2 Receptors

2.2.1 Receptors will have a varying sensitivity to dust depending on the receptor type. It is considered human receptors will have the highest sensitivity to dust; this includes receptors within close proximity to the site <250m where people spend a significant amount of time i.e. residential dwellings, workplaces, hospitals, schools and care homes.

2.2.2 A Receptor Plan has been prepared to illustrate the location of receptors within 1km of the site, see Appendix I, Drawing No. 3578/OYS/04 Receptor Plan. As mentioned above the predominant wind direction is towards the northeast, therefore, receptors listed below that are northeast of the site are most likely to be impacted if dust emissions were to escape beyond the site boundary.

2.2.3 Table 2.1 overleaf details the direction and distance from the boundary of the site to the boundary of receptors within 1km of the site.

Table 2.1 - Sensitive Receptors

Receptor	Direction from Site	Approx distance from the site boundary to the receptor boundary (m)
Commercial / Industrial		
Dyfed Steel	North	5
Colchester MOT Centre	West	10
MJ Spindler Trading	East	20
Silverton Aggregates & Builders Merchants	Southeast	**35**
Colchester Water Recycling Centre	South	**100**
Veolia Colchester Commercial Waste Depot	Southeast	**180**
Nationwide Metal Recycling	Southwest	**235**
Simply Plastics	Southwest	**320**
Core Fusion Skip Hire Colchester	Southwest	**360**
Grange Way Business Park	Southwest	**380**
Residential Dwellings		
University Quays (student halls)	North	135
Hilltop Close	West	340
Old Heath Road	Southwest	585
Care homes (residential)		
n/a	n/a	n/a
Schools / Education		
The University of Essex	East	570
Old Heath Community Primary School	Southwest	700
Kendall Primary School	Northwest	760
Butterfly Barns Day Nursery	Northwest	850
Watercourses / Surface Water Features		
River Colne	North / East	92
Distillery Pond	Northwest	450
Salary Brook	Northeast	700
Infrastructure (major roads and transport links)		
Whitehall Road	North	95
Old Heath Road	West	635
Ecological Sites		
Salary Brook (local nature reserve)	Northeast	700
Ancient Wood Pasture	Southeast	520
Upper Colne Marshes (SSSI)	Southwest	540

2.3 Other Dust and Emission Sources

2.3.1 There are several other industrial and commercial premises situated within close proximity to the site that have the potential to emit dust from their operations, these include:

a) M J Spindler Trading – who are a demolition contractor that have potentially dusty materials on site from construction, demolition and excavation sources.
b) Silverton Aggregates & Builders Merchants – a building material supplier who will have potentially dusty construction materials on site.
c) Core Fusion Skip Hire Colchester – operate a household, commercial and industrial waste transfer station with treatment facility including the external storage and treatment of aggregate.

2.3.2 If materials at the above sites aren't managed or stored appropriately, they all have the potential to emit dust.

2.3.3 It is considered there will be a natural production of dust from surrounding agricultural activities and farms. In particular the 'Fen Blows' which is the incidence of very strong winds, when it is not uncommon for soils from agricultural fields to be blown onto adjacent land.

2.3.4 Surrounding roads have the potential to produce dust from vehicles and maintenance issues i.e. potholes.

3 Site Operations

3.1 Waste Deliveries & Acceptance

3.1.1 Strict waste acceptance procedures will be implemented on site to ensure that only suitable waste is accepted. Only the waste codes detailed in the EP will be accepted onto the site for storage and treatment. Waste acceptance procedures will ensure that waste comprising solely of dust, powders, or loose fibres are not accepted. For further information on the waste acceptance procedures see the EMS, document ref. 3578-OYS-EMS.

3.1.2 Waste will be delivered to the site via an existing access off Haven Road.

3.1.3 Waste will be delivered onto / depart from site primarily by the operators own vehicles (skip lorries). The movement of vehicles on site has the potential to cause dust emissions, particularly in dry and windy conditions. A 5mph speed limit and the minimisation of vehicle movements will be enforced on site to reduce the amount of dust generated by vehicle wheels.

3.1.4 All vehicles entering / exiting the site will be sheeted to minimise the likelihood of dust emissions. Loaded vehicles that are not sheeted will not be allowed to enter the site. Vehicles delivering waste will predominantly comprise skip wagons collected from householders or builders/other tradesman on behalf of householders.

3.1.5 If upon visual inspection loads appear to be visibly dusty i.e there are visible dust plumes escaping the container the operator will use hoses to manually dampen down the load prior to tipping to prevent further dust being emitted. The main waste reception / tipping area is located within an enclosed building capturing any potential dust emissions released during tipping within the building.

3.1.6 Any third-party deliveries to the site will be advised that all loads must be suitably sheeted.

3.1.7 Vehicles entering the site will be visually inspected prior to unloading to ensure that loads comprising solely dust, powders, or loose fibres are not accepted.

3.2 Potential Dust Emissions

Waste Codes

3.2.1 Wastes listed in Table 3.1 details the EWC codes for all wastes with the potential to emit dust and particulates which are authorised to be accepted at the site in accordance with the EP. Those EWC codes highlighted red are the EWC codes which will be accepted on a regular basis, EWC codes highlighted green are wastes that could be accepted at the site but aren't accepted on a regular basis.

Table 3.1 - Wastes with Dust Potential

EUROPEAN WASTE CATALOGUE - COMMISSION DECISION 2000/532/EC	
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
03	**WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE PULP, PAPER AND CARDBOARD**
03 01	wastes from wood processing and the production of panels and furniture
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
10	**WASTES FROM THERMAL PROCESSES**
10 02	wastes from the iron and steel industry
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 12	wastes from the manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
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	mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 03	bituminous mixtures, coal tar and tarred products
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
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 materials
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01
17 09	other construction and demolition wastes

EUROPEAN WASTE CATALOGUE - COMMISSION DECISION 2000/532/EC	
WASTE CODE	**DESCRIPTION**
17 09 04	mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than that mentioned in 19 12 06
19 12 09	minerals (for example sands, stones)
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones
20 03	other municipal wastes
20 03 03	street-cleaning residues

3.2.2 Other wastes with the potential to cause dust may be accepted and are subject to the same management, mitigation and control measures included in section 4.

3.2.3 Reference should be made to the Risk Assessment Tables outlined in Section 5.7 and the control measures outlined in Section 4 for details of the handling procedures and mitigation measures in place for wastes stored and treated on site.

3.3 Waste Storage Table

3.3.1 Table 3.2 details the location, waste types and duration of all wastes actually stored on site. The waste types with dust potential have been highlighted in red.

3.3.2 All waste stored in bays will be stored with a minimum 1m freeboard from the maximum height of the bay wall.

Table 3.2 – Waste storage table

Storage Area Details											
Plan Ref	**Description**	**Storage type**	**Containment**	**Height / width of firewall (m)**	**Max width of pile (m)**	**Max length of pile (m)**	**Max height of pile (m)**	**Approx. area (m2)**	**Conversion factor used**	**Approx. volume (m3)**	**Max storage time**
AREA A1	Full skip storage prior to tipping and processing	Free-standing (unprocessed)	Sealed skips (containers)	n/a	6.4	2	3	16	1	41	<48 hours
AREA 1	Mixed waste reception (tipping), inspection and sorting area	Free-standing (unprocessed)	Enclosed waste transfer building	n/a	6	9	3	54	0.333	54	<12 hours
AREA 2	Cardboard & paper baler infeed pile	Free-standing (processed)	Freestanding stockpile in enclosed building	n/a	5	5	2	25	0.333	17	<12 hours
AREA 3	Baled paper & cardboard	Free-standing (processed)	Freestanding stockpile in enclosed building	n/a	6	2	2	12	1	24	<72 hours
AREA 4	PVC	Free-standing (processed)	Sealed 40-cubic yard container	n/a	6.4	2	3	16	1	41	<4 weeks
AREA 5	Plasterboard	Free-standing (partly processed)	Three-sided concrete bay	5 / 0.1	8.2	4	3	33	0.75	74	<2 weeks
AREA 6	Non-hazardous source segregated wood	Free-standing (partly processed)	Three-sided concrete bay	5 / 0.1	8.2	4	3	33	0.75	74	<4 weeks
AREA 7	Sorted waste bay containing any of the following - green waste, plastic, cardboard, metal etc	Free-standing (partly processed)	Three-sided concrete bay	5 / 0.1	8.2	4	3	33	0.75	74	<2 weeks
AREA 8	Hardcore / stone	Free-standing (processed)	Three-sided concrete bay	5 / 0.1	13.5	8	3	108	1	324	<6 months
AREA 9	Soils / inert material	Free-standing (processed)	Three-sided concrete bay	5 / 0.1	12.5	4	3	50	1	150	<6 months
AREA 10	<10mm screened fines (trommel fines)	Free-standing (processed)	Three-sided concrete bay	5 / 0.1	12.5	4	3	50	1	150	<2 weeks
AREA 11	Residual mixed wastes	Free-standing (processed)	Three-sided concrete bay	5 / 0.1	15.2	6.2	3	94	0.75	212	<1 week
AREA 12 - 13	Shredded RDF fines	Free-standing (processed)	Three-sided concrete bay	5 / 0.1	5.7	4	3	23	1	68	<1 week
AREA 14	Wood (clean source segregated)	Free-standing (processed)	Three-sided concrete bay	5 / 0.1	7	11.2	3	78	0.75	176	<1 week
AREA 15	Shredded wood (clean shredded wood from AREA 14)	Free-standing (processed)	Three-sided concrete bay	5 / 0.1	4.4	4	3	18	0.75	40	<1 week

3.4 Overview of Site Operations

3.4.1 Following acceptance, mixed loads are deposited into the waste transfer and treatment building **AREA 1**. Following tipping the waste is subject to the following treatment, recovery or disposal procedures:

a) All mixed loads will be deposited in the mixed waste reception area (**AREA 1**). If skips cannot be emptied and processed the same day, they will temporarily be stored in **AREA A1** which is located within a secure building for processing the following day.

b) Tipped waste is manually / hand sorted into recyclable materials such, wood/timber, metals, plastic, cardboard, brick, concrete, soil, non-recyclable etc. Sorted wastes are taken to the external yard for storage in secure bays or to await further processing i.e. baling or shredding.

c) Separated inert materials consisting of brick, concrete soil etc are further processed via a screen to separate the soils from hardcore. Once separated the hardcore, soils and screened trommel fines are moved to the external yard for storage in secure bays.

d) The operator will also accept separate loads of 19 12 12 RDF and residual waste from other waste management waste facilities for shredding; this will be deposited directly into **AREA 11**.

3.5 Mobile Plant and Equipment

3.5.1 Table 3.3 details the plant / equipment available on site. Only trained operators will be permitted to drive / operate the plant / equipment listed below.

Table 3.3 - Plant & Equipment

Item	Number	Function
360° excavator	1	Movement of waste around site
Weighbridge	1	Weighing wastes
Baler	1	Compacting recycled cardboard
Telehandler	1	Movement of waste and bales around site
Soil screener	1	Screening and separation of soils and stones
Shredder	1	Shredding of waste material to reduce size

3.5.2 The plant/equipment on site may vary and additional equipment may be hired-in to cope with busy periods, larger jobs or jobs with specific requirements.

3.5.3 All plant and equipment used on site will be subject to preventative maintenance checks to ensure effectiveness and no excess smoke from exhausts is being produced.

3.5.4 A no idling policy is in place which ensures that engines are switched off when vehicles or plant are not in use. This policy will ensure that tail pipe emissions are significantly reduced.

4 Dust Management & Mitigation

4.1 Sources of Fugitive Dust / Emissions

4.1.1 The main dust/emission sources which arise from site are detailed in Table 4.1 below:

Table 4.1 – Dust emission source table

Source/Plan Ref	Description
AREA 1 / 1A	The main tipping area or waste reception area
Loading of waste into mechanical plant	Loading waste into the treatment plant i.e. the hopper of the screener or shredder.
Vehicle movements	Vehicles accessing / aggressing the site and tracking dust on to or off the site. General vehicle or plant moving around the site causing the resuspension of dust particles from dry site surfaces.
Screening activities	The screening of CDE waste including the deposit of screened fines beneath the plant.
Shredding activities	Shredding of light residual wastes including the deposit of shredded material output into the appropriate storage bay.
Movement / handling of waste	Loading waste materials on to vehicles for removal off site or movement of waste around the site for storage.
Storage of potentially dusty waste types (AREAS 8, 9, 10, 12 & 15)	The storage of potentially dusty wastes without appropriate dust suppression methods or when weather conditions increase the risk of dust emissions i.e. where wind speeds reach 4 on the Beaufort Wind Scale or prolonged periods f hot and dry weather.
Vehicles/plant/machinery	Particulate emissions from the exhaust of vehicles/plant/machinery on site (NO2).

4.2 Control Measures (general/staff training/daily inspections)

4.2.1 Good housekeeping and site practices are vital to ensure that the impacts from fugitive dust and debris impacts are controlled.

4.2.2 Daily inspections are undertaken on site in relation to the presence of dust / debris with corrective actions implemented upon discovery. Operational staff are suitably trained in procedures to keep the levels of dust /debris to a minimum including prevention and mitigation.

4.2.3 In dry and windy weather conditions recorded inspections will take place more frequently (up to three times a day). All inspections are visual and recorded on the Inspection Checklist, see Appendix II

4.2.4 Areas where dusts are likely to arise or build up will be continuously monitored throughout the working day and cleaned on a daily basis; paying special attention to plant and equipment where dust is more likely to build up.

4.2.5 The weather conditions at the site will be considered and recorded at the start of each working day so that the days operations may be planned to consider any potential increase in dust emissions from climatic conditions. If wind conditions between 4-6 on the Beaufort Wind Scale are experienced the site manager will decide whether to implement more frequent visual monitoring i.e. three times daily or periodically (every hour) or if continuous suppression is required. A copy of the Beaufort Wind Scale is shown in Appendix V of this DEMP for reference.

4.2.6 If excessive windy conditions are expected (winds exceeding 6 on the Beaufort Wind Scale) the site manager can decide if stockpile heights need reducing or if some treatment operations i.e. crushing of waste needs to be temporarily suspended.

4.3 Control Measures (housekeeping & schedule staff training/daily inspections)

4.3.1 Good housekeeping and site practices are vital to ensure that the impacts from fugitive dust and debris impacts are controlled. The site undertakes regular inspections throughout the day for the presence of dust/debris with corrective actions taking place upon discovery. Operational staff are suitably trained in procedures to keep the levels of dust /debris to a minimum including prevention and mitigation. The inspections will be once a day minimum and more frequent during dry/windy weather conditions. All inspections will be visual and are recorded on the Dust Monitoring Forms shown in Appendix III. The inspections points may vary on site so are therefore not included on the drawing.

4.3.2 The areas listed in Table 4.1 above i.e. where dusts arise or build up will be continuously monitored throughout the working day and cleaned on a daily basis; paying special attention to the machines where dust is more likely to build up.

4.3.3 The operator will rely on weather updates for wind speed/gusts using live information from the Met Office or other suitable weather website (Refer to Section 6.3 which details how the site will operate under periods of high winds).

4.3.4 The operator will avoid fugitive dust emissions by committing to the following housekeeping schedule:

HOUSEKEEPING SCHEDULE

- Maintain a clean, well-organised site
- Use suppression systems to dampen down potentially dusty wastes
- Jet spray and disinfect storage bays when emptied
- Clean equipment that has been in contact with dusty materials
- Carry out a deep clean of the reception / processing structure and external areas once a quarter and record this in the site diary
- Concrete floors designed with a slope towards drainage system and designed in a way that allows easy cleaning.
- Floors sealed to prevent absorption and adsorption of dust producing residues.

4.3.5 The operator has a maintenance team which carries out the cleaning and maintenance on a continual basis then a final check one hour at the end of each day or one hour before their shift ends.

4.3.6 In dry and/or windy weather conditions such as a high wind or a combination of dry weather and high winds where it is apparent dust escaping beyond the boundary, the site will have no other option than to shut the site and contact the Local Environment Officer.

4.4 Control Measures (boundary fencing / containment)

4.4.1 Wastes with the highest potential to produce dust (soil, stones, hardcore etc) are stored in 3-sided concrete storage bays in the external yard with a minimum 1m freeboard maintained at all times. Bays on site will be to a height of 5m with waste stockpiled to a maximum of 3m therefore a 2m freeboard will be mostly maintained throughout the site.

4.5 Control Measures – site surfacing

4.5.1 All waste storage and treatment areas comprise of impermeable concrete surfacing. The operator has the capability to dampen down surfaces and stockpiles using hosepipes and the onsite mains water supply.

4.5.2 Areas of impermeable concrete will be manually swept at the end of each working day to collect any litter / dust that has settled on the site surface to prevent it becoming windblown outside of operational hours.

4.6 Control Measures - vehicle movements

4.6.1 The control measures implemented by site management to minimise the risk of dust and debris emissions from dusty site surfaces and vehicle movements include:

a) Access to a permanent mains water supply and additional onsite water storage tanks will be available at all times, particularly during hot and dry weather conditions to ensure that the dust suppression systems can function effectively.
b) Vehicle speed on site is restricted to 5mph. Signs are erected at the relevant areas of the site. This reduces the potential for re-suspension of dust and particulate matter.
c) Exiting vehicles leaving the site will avoid all areas where wastes are stored or stockpiled. All vehicles will be checked before they leave the site to ensure no mud/dust can stretch beyond the site access. All incoming/outgoing vehicle loads will be sheeted.
d) If required hoses can be used to wash any dust, mud or debris off the wheels of vehicles before exiting the site.
e) Any mud/dust deposited off site will be treated as an emergency and cleaned by operatives using manual techniques or the operator will organise for a road sweeper to be deployed if required.
f) Any dust/fluff cleared from mobile plant or other areas where dust/fluff could idle will be deposited into one of various mobile wheelie bins which are located near the site office.
g) The operator will dampen down surfaces using a hose; paying special attention to the areas where dust/debris is likely to build-up i.e. where wastes with dust potential are stored.

4.6.2 It must be noted the site currently accept wastes that are considered to have the potential to be dusty (soil, stones and rubble) and have had no complaints from third parties or regulators regarding dust or tracking mud/debris off site.

4.7 Control Measures – site suppression

4.7.1 **Hosepipes** – There are hoses situated around the site which can be utilised to spray waste in bays and stockpiles, and for further dampening of the site surface. The hosepipes will be used daily if required to dampen down all wastes at the site to minimise the risk of dust being produced.

4.7.2 The above suppression techniques will not be in use continually but only during the following circumstances where site management will inform staff to implement them:

a) If the weather has been dry for three days and waste stockpiles/surface are dry.
b) During dry/warm conditions i.e. temperatures above 75^0F.
c) During weather conditions when winds reach 4 or above on the Beaufort Wind Scale.
d) In the event of operational staff or site management are noticing dust plumes appearing on site or dust emanating off site from carrying out daily on/off site inspections.
e) In the event the operator requires to load dusty waste which may cause airborne dust once being loaded.

4.8 Control Measures – wheel wash / wash down area

4.8.1 Site operatives will inspect vehicles prior to leaving the site and if required clean vehicle wheels before exiting using hose pipes to reduce the risk of mud/debris being tracked off-site.

4.8.2 In the unlikely event that the material is deposited on the public highway it will be treated as an emergency and will be cleared immediately by the operator using manual techniques (brush, hoses) or if required a road sweeper will be organised by the site manager.

4.9 Control Measures – water supply

4.9.1 A permanent mains water supply is available on site to ensure that dust suppression can function effectively. Any external water pipes will be lagged to prevent frost damage during winter months and the operator will set up a notification alert system with the Met Office in the event of a drought or hot weather being imminent. This will enable the operator to source water in the short and long term and store additional tanks if required prior to a potential water ban.

4.9.2 There is a 10,000 litre rainwater harvesting tank on site which can be utilised to assist with dust suppression.

4.10 Control Measures – processing of waste

4.10.1 **Shredding** – The shredder is fitted with spray bars to dampen material during processing and prevent fine particles produced as part of the mechanical shredding of material into smaller fragments from becoming airborne.

4.10.2 **Screening** – screening of CDE waste is undertaken within an enclosed building, any dust produced as part of this processing will be captured within the building.

4.11 Control Measures – storage of waste

4.11.1 The control measures implemented by site management to minimise the risk of dust and debris emissions from the continuing storage of wastes and the loading/unloading of these include:

a) Stockpiles will be sprayed with water during periods of dry/windy weather to prevent excessive drying and dust formation.
b) In the event of dust plumes on site, dust emanating off site, dry weather conditions or when winds reach 4 on the Beaufort Wind Scale, hoses will be used to dampen storage areas and stockpiles.
c) Drop heights will be kept to a minimum to prevent dust emissions where adjustment permits.
d) All waste which has undergone sorting/separation and are stored in dedicated bays will have a minimum 1m freeboard to prevent the waste exceeding the height of the bay and causing dust plumes.
e) In the event of high winds outside of operational hours (the likelihood of which will be checked daily via Met Office notifications) stockpile heights of potentially dusty wastes e.g., soils, stones and aggregate will be reduced by 1m and covered with tarpaulin to prevent wind whipping of material.
f) All waste stored within containers will not be overfilled so waste is overflowing beyond the confines of the container.

4.12 Control Measures – vehicle movements and mobile plant

4.12.1 A no idling policy is in place which ensures that engines are switched off when vehicles or plant are not in use. This policy will ensure that tail pipe emissions are significantly reduced.

4.12.2 The operator will follow the first in first out principle on site to reduce additional movements by mobile plant.

4.13 Control Measures - loading and unloading vehicles

4.13.1 The operator of the loading plant will direct vehicles to a position and location which reduces wind whipping of loaded material.

4.13.2 Drop heights will be kept to a minimum and tipped in a manner to ensure the pile does not exceed the storage limits.

4.14 Control Measures - Process Monitoring

4.14.1 Process monitoring will be undertaken by site operatives to ensure procedures are being carried out effectively.

4.14.2 Following removal of waste from a bay a visual inspection of the bay will be undertaken to ensure all material has been removed before refilling. This ensures no residual material is left behind that could become dry and dusty from being stored for longer than required.

4.14.3 To ensure the site doesn't reach capacity and is unable to accept further waste loads, visual monitoring will be undertaken of storage bays and containers. If it is evident multiple bays or containers are full or near full and have not been emptied this indicates the site is nearing full capacity and the operator will arrange for waste to be removed or delay acceptance of loads until there is sufficient capacity available.

4.14.4 To ensure stockpiles do not exceed the height of the surrounding bay walls / perimeter fencing and a minimum 1m freeboard is maintained, site operatives will ensure the bay is marked with height indicators on the wall to allow for a quick visual reference (this could be in the form of spray-painted lines or using the height of the joists on the bay walls).

5 Dust Management Risk Assessment Model

5.1 Fundamental Considerations

5.1.1 **Source/Hazard:** A property or situation that in particular circumstances could lead to harm.

5.1.2 **Consequences:** The adverse effects or harm as the result of realising a hazard which causes the quality of human health or the environment to be impaired in the short or long term.

5.1.3 **Risk:** A combination of the probability of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

5.2 Pathway

5.2.1 Important in the assessment of a particular risk(s) and to inform the subsequent management of the risk(s) is the identification of the pathway(s) through which the risk may affect the identified receptor(s). The following are examples of pathways:

- Air
- Ground
- Water
- Direct contact / exposure

5.3 Consequences

5.3.1 Table 5.1 highlights the consequences of the hazard(s) identified and the abbreviations for each as used in the Risk Assessment Table 5.5 in Section 5.7.

Table 5.1 – Consequences

Abbreviation	Consequences
A	MINOR INJURY
B	MAJOR INJURY
C	DEATH
D	AIR POLLUTION
E	WATER POLLUTION
F	POLLUTION OF LAND

5.4 Effects of consequences

5.4.1 In order to quantify the level of risk and identify the appropriate management procedures, the potential effects must be considered, as outlined in Table 5.2 below:

Table 5.2 – Potential effects

Abbreviation	Effect of Consequences	Management Required?
S	SEVERE	In all cases
Mo	MODERATE	In most cases
Mi	MILD	Occasionally
N	NEGLIGIBLE	No

Note: "Management" is the action required to reduce the risk of a hazard causing a problem on site. Contingency measures are procedures which are in place to reduce the consequences of a hazard.

5.5 Risk estimation and evaluation (probability/frequency of occurrence of hazard)

5.5.1 Table 5.3 allows the likelihood of an occurrence of an identified risk to be assessed:

Table 5.3 – Likelihood

	Probability	Evaluation
1	Very likely	Could occur during any working day
2	Likely	Could occur regularly
3	Possible	Event possible
4	Unlikely	Event very unlikely

5.6 Risk Assessment Outcome (combination of probability & consequence)

5.6.1 Table 5.4 shows the resultant risk of an identified hazard or potential situation. This uses the hierarchy of both probability and consequence to assess the level of risk. The level of risk determines what level of management would be required in order to reduce the risk of occurrence and/or scale.

Table 5.4 – Risk assessment outcome

		Consequence			
		S	**Mo**	**Mi**	**N**
Probability	**1**	High	High	Medium	Low
	2	High	Medium	Low	Negligible
	3	Medium	Low	Negligible	N/A
	4	Low	Negligible	N/A	N/A

5.6.2 Where the risk assessment outcome is high, first-level management of the risk is essential, i.e. removal of hazard, implementation of major infrastructure/structural design measures to contain the risk/hazard and company policy changes to incorporate the management of the risk. All risk management measures must be supplemented with detailed induction training, spot training and tool-box talks to ensure all site staff and users are made fully aware of the risk/hazard, all potential consequences and necessary management and contingency procedures.

5.6.3 Where the risk assessment outcome is medium, the management of the risk should be tackled by management or delegates. If removal of the hazard is not possible, management will normally be met through implementing minor structural design measures or by imposing procedures for the prevention of occurrences which will be conveyed to all site staff through the appropriate training, including any contingency measures/procedures.

5.6.4 Where the risk assessment outcome is low, the management of the risk can be done wholly through appropriate training to site staff including any contingency measures/procedures.

5.6.5 Where the risk assessment outcome is negligible, site staff should be made aware of the possibility of an occurrence and contingency measures should be readily available to all staff should they be required.

5.7 Risk Assessment Table

5.7.1 The following pages contain the site-specific risk assessment for the site with appropriate remedial actions, recommendations and comments included for each identified hazard, potential contaminant, or situation.

5.7.2 Table 5.5 also contains references to the appropriate section(s) of the site's EMS for additional management procedures.

5.7.3 As discussed in the section above, all situations which identify a risk from Low –High should be incorporated into the staff/visitor training schedule, where appropriate and acted on as required.

5.7.4 Table 5.5, overleaf details the relevant pathways and receptors for each individual dust/emission source and relevant measures required to break these linkages. The control measures outlined in Section 4 will be included within these tables as well as additional specific measures.

SEE TABLES OVERLEAF

Table 5.5 – Source, Pathway, Receptor Routes

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
Dust / debris on site surfaces	Air	Local human population, including industrial units, neighbouring businesses, residential dwellings and surface water features, specifically: • Site workers and visitors.	Harm to human health – respiratory irritation and illness. Air Pollution Water Pollution	Moderate	3	Low	Site surfaces will be dampened using hose pipes. The operator will pay special attention to the areas where dust/debris is likely to build-up i.e. near to stockpiles. All site operatives will be trained in these procedures, and it will be the responsibility of site management to ensure the measures have been carried out. Daily housekeeping inspections are undertaken on site to clear debris and litter and prevent it from leaving the permit boundary. Vehicle speed on site is restricted to 5mph. Signs are erected at the relevant areas of the site, including the main access gates, to advise drivers of the speed limit. This will reduce the re-suspension of dust and particulate matter. Exiting vehicles leaving the site will avoid all areas where wastes are stored or stockpiled. All vehicles will be checked before they leave the site to ensure no mud/dust can stretch beyond the site access. All incoming/outgoing vehicle loads will be sheeted. Vehicle wheels will be cleaned using an on-site hose pipe if required. Mud or debris deposited onto the public highway will be treated as an emergency and cleaned by site operatives. If required, the site manager will arrange for a road sweeper to be deployed on the public highway. Continuous monitoring regime in place to identify any potential for dust leaving site boundary.	Negligible
Vehicles tipping into waste reception/storage areas	Air	As above	Harm to human health – respiratory irritation and illness. Air Pollution Water Pollution	Moderate	2	Medium	The main waste reception / tipping area is situated within a building and therefore any dust would likely be contained within the building. Drop heights will be kept to a minimum to prevent dust emissions which will be no more than 1m – 2m above the ground. The operator will avoid double handling of waste. Staff continue to monitor the waste to ensure it does not escape the confines of storage bays and skips / containers. The operator also has access to mains water and hoses on site, if upon visual inspection prior to tipping waste appears like it could produce a dust plume following tipping wastes can be dampened down while still in the skip.	Low

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
Loading of waste into treatment plant	Air	As above	Harm to human health – respiratory irritation and illness. Air Pollution Water Pollution	Moderate	2	Medium	Drop heights will be kept to a minimum to prevent dust emissions which will be no more than 1m – 2m above the ground. The on-site access to mains water and hosepipes will offer additional suppression. The operator will avoid double handling of waste and may directly load from vehicle directly into the treatment plant if feasible. Suspension of operations during conditions where winds reach 7+ on the Beaufort Wind Scale, if dust plumes occur on site or if dust is emanating off site following on/off site inspections.	Low
Prolonged periods of dry/warm weather or conditions where winds reach 4+ on the Beaufort Wind Scale	Air	As above	Harm to human health – respiratory irritation and illness. Air Pollution Water Pollution	Moderate	2	Medium	Additional (increased from one to three times) daily visual assessment / monitoring will be on and off site around the site perimeter in order to ensure dust is not escaping beyond the site. Continual use of mobile dust suppression methods (hose pipes) until weather conditions change/improve or inspections detail dust emanating on/off site is not occurring.	Low
Particulate emissions from the exhaust of vehicles / plant /generators and other non-road going machinery on site.	Air	As above	Harm to human health – respiratory irritation and illness. Air Pollution Water Pollution	Moderate	3	Low	All vehicles, plant and equipment are serviced in line with manufacturer recommendations to ensure they are fit for purpose and ensure emissions are below the acceptable level. All vehicles, plant and equipment undergo daily inspections under the site's preventative maintenance schedule to ensure no visible faults are detected. Ongoing inspections will note any faults with machinery and if a fault detected, the site/compliance manager or TCM will decommission the plant/vehicle until it is fit for purpose.	Very Low - Negligible

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
External mechanical processing of waste i.e. shredding	Air	As above	Air pollution Water pollution	Moderate	2	Medium	The output of the shredder which is considered the main area where dust and particulates could arise is located within an open fronted, covered bay. Any defects to the bay / shelter would be repaired upon detection. The shredder will be operated with a dust suppression system i.e. sprinklers to dampen waste whilst processing. Drop heights from output conveyors will be kept to a minimum. All waste will be stored with a minimum 1m freeboard from the height of the bay walls. Waste storage and operational areas undergo continuous monitoring by site operatives who inspect and clean the site daily in addition to monitoring stockpile heights.	Low

6 Monitoring and Contingency Measures

6.1 Monitoring and Recording

Visual Dust Monitoring

6.1.1 Dust emissions at the site will be monitored by visual observation and recorded on the Dust Monitoring Form. There are no fixed locations for dust monitoring as this will change dependent on weather conditions and the direction of wind. Monitoring will take place anywhere within and around the site boundary. Monitoring results will be recorded on the Dust Monitoring Form, see Appendix IV.

6.1.2 Dust monitoring will be carried out during operational hours. Recorded visual monitoring will be undertaken at least twice a day, for a minimum of five minutes each time by appropriately trained site operatives. Visual monitoring will take place at the beginning of the working day and when operations with the highest potential to produce dust are taking place. This is considered to be the most beneficial method to ensure that mitigation measures being implemented on site are effective. It is expected that staff members will also check for dust emissions as they approach or leave the site boundary.

6.1.3 If excessive dust emissions (dust clouds) are observed, the site manager will establish what is causing the excessive dust emission to be generated and take remedial action. The results of the investigation and what action was taken will be recorded.

6.1.4 If the operator increases suppression methods and the suppression methods are still not considered suitable, operations will reduce or cease until the problem has been fully rectified. Site management will be responsible for investigating dust issues and provide additional training to staff to prevent any re-occurrences.

6.1.5 Extra and unplanned monitoring will be carried out on site when conditions are particularly windy (4 or above on the Beaufort scale) or dry, new activities are being undertaken, new machinery is being used or following the receipt of a complaint or incident related to dust emissions.

6.1.6 Site operatives will continuously visually monitor dust emissions whilst plant is in operation and will control dust emissions using the procedures outlined in sections 4.3 – 4.14 and asking the site manager, compliance manager, TCM or third party for advice as required. Work procedures will be stopped/adjusted should it be evident significant dust is being emitted which has the potential to migrate offsite.

6.2 Staff Shortages / Human Error

6.2.1 In the event of unforeseen staff shortages arising from illness, suspension or no shows, the Operator will make a judgement whether to reduce the number of incoming loads, thus reducing processing frequency and divert material to an alternative site. The operator will then seek further employment within a timely manner to ensure the site can continue to operate at its required capacity.

6.2.2 All staff are trained and undergo toolbox talks every 12 months (or sooner if operations change) to reduce the impact of human error. In instances where a human error has caused to an on-site dust issue, the site may suspend operations until the issue has been rectified and the member of staff will be warned and re-trained accordingly.

6.3 Weather Conditions

6.3.1 The site will receive Met Office weather alerts for conditions which could cause a potential on or off-site dust complaint:

a) Dust plumes occurring on site, potentially if winds reach 4 on the Beaufort Wind Scale
b) Winds exceeding 7 on the Beaufort Wind Scale
c) Dust escaping beyond the site boundary.
d) Droughts or periods of hot weather exceeding 3 major dry days which could lead to water shortages, hosepipe bans and excessive dust.

6.3.2 The operator will install the following preventative measures on site to avoid serious dust pollution:

WINDS EXCEEDING 7 ON THE BEAUFORT WIND SCALE

- No sorting, processing or treatment of any wastes which are likely to be blown around during these wind conditions; operations would also be suspended where it is evident where dust is escaping beyond the site. Operations would only continue once the problem has been rectified i.e. by carrying out suppression or reducing stockpile heights or if weather conditions improve.
- Stockpiles will be reduced to further such as a 2m freeboard to prevent the material escaping beyond the site boundary.
- Stockpiles may be covered with tarpaulin in the event the above procedures are not considered effective.
- If higher winds i,e. amber/red alert on Met Office are present, the site will deploy the above measures and may be forced to close operations until conditions have improved.

DROUGHTS/WARM, DRY WEATHER

- In cases such as a hosepipe ban or water shortage, the site will ensure there is additional water available i.e. tanks which can be used to ensure suppression techniques can still function. Tanks will include IBCs filled with water and a mobile water bowser to be utilised.
- The operator will contact the water company daily to see when water supply is available, operations would reduce in these instances.
- Where dust is becoming a major concern then the operator will stop processing the material and cover the piles using tarpaulin until conditions or dust suppression techniques are considered effective.

6.4 Operational/Power failure

6.4.1 The site manager will be contacted by staff in the event of any operational failure such as the breakdown of plant, systems or equipment and will decide whether operations are to continue or be suspended prior to corrective action being taken. Serious operational failures will be recorded in the site diary and operations suspended if dust is apparent.

6.4.2 All details of defects, problems and repairs carried out will be recorded on a daily inspection form. Detailed comments may also be recorded in the site diary. All repairs will be carried out as soon as practicable.

6.4.3 All repairs to site security will be made on the discovery of the damage and the site will be made secure until the repair has been carried out.

6.4.4 Any major defects found during site inspections which are likely to lead to a breach of permit conditions will be repaired by the end of the working day in which they are found, where possible. If a repair is not possible by the end of the working day and a potential breach of permit conditions may occur, the EA will be contacted to agree a suitable timescale for repair.

6.4.5 The operator would also be required to make a note of any unavoidable events plant/equipment malfunctions in the site diary, rather than just actual complaints received. This will ensure that if complaints are received retrospectively from either the Council/EA or directly, any circumstances which led to that complaint as a result of elements outside of the operator's control would be able to be attributed to the cause of the complaint. If there are significant dust releases outside normal operations, the operator will cease operation, investigate, and resolve the issue before continuing.

7 Reporting and Complaints Response

7.1 Reporting of Complaints

7.1.1 Should a complaint regarding dust be received by the site, the complaint will be recorded on the complaints form and investigated in accordance with the complaint's procedure. Details of information to be recorded as a minimum are:

a) Who made the complaint.
b) Date & time of the complaint.
c) The nature of the complaint.
d) Action taken.
e) Signature.

7.1.2 The person completing the form will then, if possible, make a note of:

a) the weather conditions at the time of the problem (rain snow fog etc.)
b) strength and direction of the wind; and,
c) the activities being undertaken at the time of the complaint, particularly anything unusual.

7.1.3 The site manager will identify what caused the excessive dust emissions to be generated. If the excessive dust emissions have been caused by a procedure not being carried out properly, then staff will receive further training on the dust procedures and this DEMP. If the excessive dust emission has been caused by plant failure, then the plant will be repaired as soon as possible.

7.1.4 All complaints will be acknowledged and investigated, with resultant actions reported to the complainant. Any complaints received by the Environment Agency relating to dust emissions from the site are dealt with on the same day.

7.1.5 If three or more complaints are received on the same working day, the TCM will escalate the complaint, review site operations taking place and commit to stop operations until the

cause has been identified. The known cause will not commence until the issue has resolved i.e. targeted suppression or plant malfunction and repair.

7.1.6 The operator would also be required to make a note of any unavoidable events plant/equipment malfunctions in the site diary, rather than just actual complaints received. This will ensure that if complaints are received retrospectively from either the Council/EA or directly, any circumstances which led to that complaint as a result of elements outside of the operator's control would be able to be attributed to the cause of the complaint.

7.1.7 If the source cannot be ascertained with 100% confidence, the site manager, compliance manager or TCM will either suspend or reduce the likely dust/particulate generating activities.

7.1.8 The EA will be notified by email of any third-party dust complaints received by the end of the working day including the complainant and the outcome of the investigation. Where complaints are substantiated as causing or likely to cause significant pollution, then the EA will be notified without delay, as required by conditions in the EP.

7.2 Liaison with Neighbours

7.2.1 In the extreme event of significant but temporary dust releases outside normal operations, neighbours will be contacted to advise them of the situation and the action being taken. The EA will also be notified.

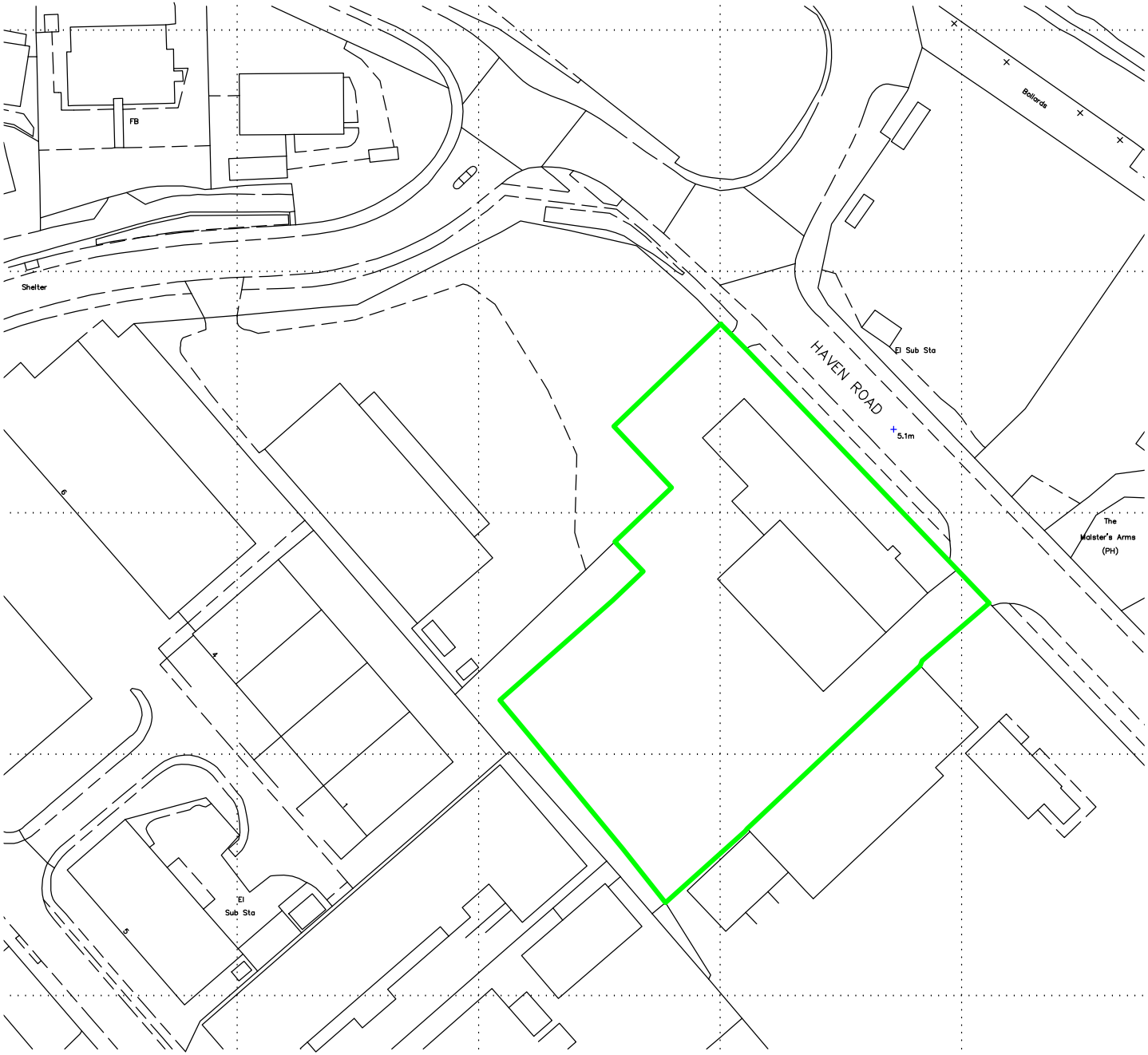
7.2.2 An open-door policy will be encouraged by the operator to enable any complaints from neighbouring premises (if received) to be dealt with immediately. The complainant will then be supplied with remedial actions taken and any procedures or measures put in place by the operator to reduce or ideally eradicate the likelihood of a subsequent complaint.

7.2.3 If any dust complaints are received, the complaint will be assigned to an operative familiar with the sites operation who will complete the form in Appendix III which will be kept for inspection on request by the LA and/or EA. Details of information to be completed are dates, nature of complaint, weather conditions at the time of the complaint, investigation details, action taken and a signature (as a minimum). Dust complaints will be investigated and

responded to within 24 hours and suitably reviewed by the site manager who is ultimately responsible.

Appendix I

Drawings



NOTES

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REVISION HISTORY

Rev:	Date:	Init:	Description:
-	15.09.25	JH	Initial drawing

KEY:

Permit boundary

N

Scale Bar (1:1,250)

0 10 20 30 40 50m

TITLE:

PERMIT BOUNDARY PLAN

CLIENT:

Kingdom Recycling Limited

PROJECT/SITE:

Oyster Haven, Haven Road, Colchester, Essex CO2 8HT

SCALE @ A4:	CLIENT NO:	JOB NO:
1:1,250	3578	001

DRAWING NO:	REV:	STATUS:
3578-OYS-02	-	Issued

DATE:	DRAWN:	CHECKED:
15.09.25	JH	CP

Oaktree Environmental
Waste, Planning & Environmental Consultants

NOTES

REVISION HISTORY

Rev:	Date:	Init:	Description:
-	17.09.25	JH	Initial drawing

KEY:

- Permit boundary
- Waste storage areas
- Non-waste storage areas
- Tipping/sorting areas
- Concreted areas
- Covered areas
- Office/welfare
- Out of hours plant storage
- 600mm thick solid concrete wall
- Quarantine area
- Firefighting equipment/extinguishers (indicative locations)
- Fire alarms (indicative locations)
- Spill kits (indicative locations)
- Plant shut off
- Mains Water
- Designated smoking area
- Fire water containment equipment i.e booms
- Access route for emergency services
- Fire hydrant
- Fire assembly points
- Pan,tilt & zone cameras with 360 50cm coverage
- Surface water fall direction
- Surface water drainage
- Interceptor
- Manhole
- Gully
- ACO drain
- Locations for use of firewater booms
- Manhole to be plugged / shut-off in event of a fire for surface water drainage containment

TITLE: SITE LAYOUT & FIRE PLAN

CLIENT: Kingdom Recycling Limited

PROJECT/SITE: Oyster Haven, Haven Road, Colchester, Essex CO2 8HT

SCALE @ A1:	CLIENT NO:	JOB NO:
1:250	3578	001
DRAWING NO:	REV:	STATUS:
3578-OYS-03	-	Issued
DATE:	DRAWN:	CHECKED:
17.09.25	JH	CP

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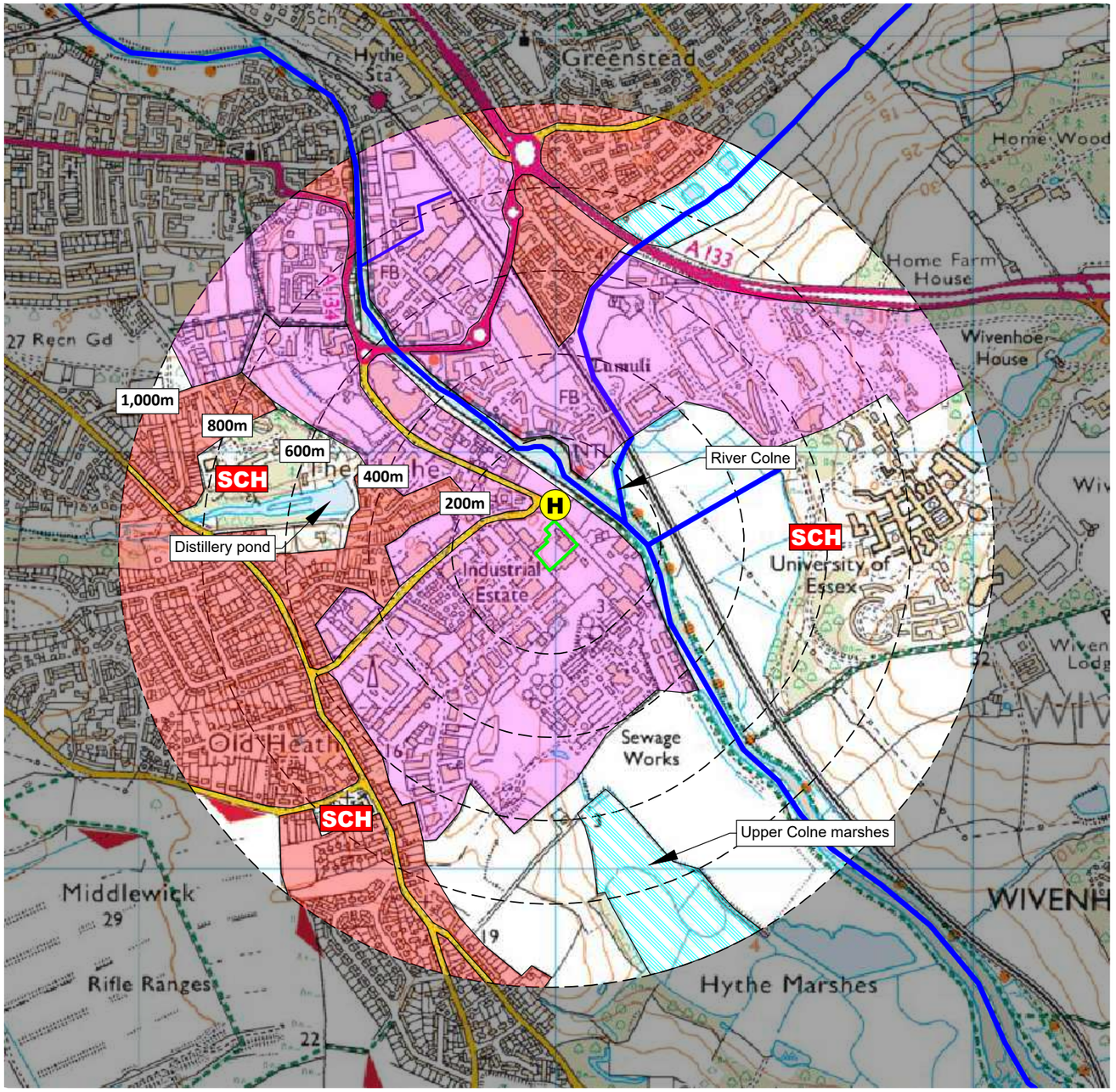
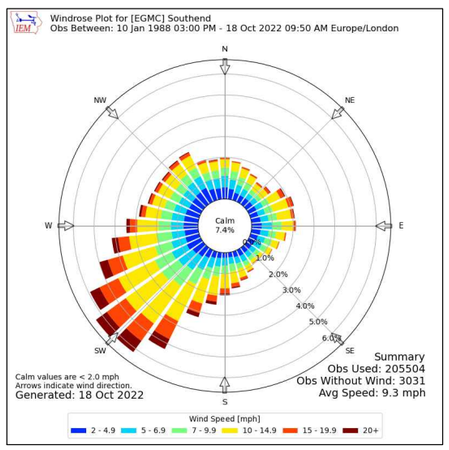
KEY:

- Permit boundary
- Main river
- Surface water body (river / stream / pond / pool / lake)
- Areas with mix of residential, retail and commercial properties
- Workplaces (includes agriculture industry, commerce and retail)
- Residential blocks
- Class A, B, C roads
- Nearest fire hydrant
- Railway line
- Schools
- Woodland areas
- Local Nature Reserves





Compass Wind Rose for (EGMC) Southend
Period 1988-2022
- source: Iowa State University

NOTES

1. Boundaries are shown indicatively.
2. Wind rose data shows the prevailing wind direction to be Southerly.

REVISION HISTORY

Rev:	Date:	Init:	Description:
-	15.09.25	JH	Initial drawing

N

Scale Bar (1:12,500)
0 100 200 300 400 500m

TITLE:
RECEPTOR PLAN

CLIENT:
Kingdom Recycling Limited

PROJECT/SITE:
Oyster Haven, Haven Road, Colchester, Essex CO2 8HT

SCALE @ A3:	CLIENT NO:	JOB NO:
1:12,500	3578	001

DRAWING NO:	REV:	STATUS:
3578-OYS-04	-	Issued

DATE:	DRAWN:	CHECKED:
15.09.25	JH	CP

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Waste, Planning & Environmental Consultants

Appendix II

Inspection Checklist

KINGDOM RECYCLING LIMITED DAILY INSPECTION CHECKLIST			
DATE			
ITEM FOR VISUAL INSPECTION ↓	**TIME OF INSPECTION (START)** **TIME OF INSPECTION (FINISH)**	**CHECKED Y/N**	**REMEDIAL ACTION REQUIRED**
EMERGENCY ACCESS (FREE FROM BLOCKAGES)			
COMBUSTIBLE WASTE STORAGE (AWAY FROM POTENTIAL IGNITION SOURCES)			
FIRE WATCH AT THE END OF THE WORKING DAY TO INSPECT FOR SIGNS OF SELF-HEATING, SMOKE OR FIRE AND ENSURE EXHUASTS ON PLANT ARE COOL ETC			
DUST/FLUFF AROUND UNIT CHECK			
LITTER (I.E. LOOSE COMBUSTIBLE WASTE MATERIALS)			
PLANT/EQUIPMENT MAINTENANCE CHECKS (BEFORE AND AFTER USE)			
FIRE QUARANTINE AREA IS CLEAR OF WASTE			
DUST MONITORING			
OTHER (SEE NOTES BELOW)			
INSPECTION CARRIED OUT BY			
NOTES/ACTION (CONTINUE ON A SEPARATE SHEET IF NECESSARY):			

CHECKED BY		**SIGNATURE**	
POSITION		**DATE**	
SHEET		***OF***	

KINGDOM RECYCLING LIMITED **WEEKLY INSPECTION CHECKLIST**			
WEEK COMMENCING			
ITEM FOR VISUAL INSPECTION ↓	**TIME OF INSPECTION (START)** **TIME OF INSPECTION (FINISH)**	**CHECKED Y/N**	**REMEDIAL ACTION REQUIRED**
SITE SECURITY (CCTV SYSTEM IS WORKING, FENCING AROUND SITE PERIMETER IS IN GOOD CONDITION, LOCK ON GATED ENTRANCE IS WORKING)			
WASTE STORAGE AREA (NOT EXCEEDING THE DIMENSIONS INCLUDED IN THE FIRE PREVENTION PLAN)			
WEATHER FORECAST (CHECK FOR UPCOMING WEEK TO DETERMINE IF WASTE OPERATIONS ARE LIKELY TO BE IMPACTED)			
FIRE FIGHTING EQUIPMENT AND SPILL KITS E.G. FIRE EXTINGUISHERS ARE IN PLACE AND FULLY STOCKED			
INTEGRITY OF CONCRETE WALLS / BAYS (NO CRACKS ETC)			
INTEGRITY OF IMPERMEABLE PAD (NO CRACKS ETC)			
INTEGRITY OF WATER STORAGE TANK (NO LEAKS OR CRACKS ETC)			
INTERCEPTOR CAPACITY			
OTHER (SEE NOTES BELOW)			
INSPECTION CARRIED OUT BY			
NOTES/ACTION (CONTINUE ON A SEPARATE SHEET IF NECESSARY):			

CHECKED BY		**SIGNATURE**	
POSITION		**DATE**	
Sheet		**of**	

KINGDOM RECYCLING LIMITED **MONTHLY INSPECTION CHECKLIST**			
WEEK COMMENCING			
ITEM FOR VISUAL INSPECTION ↓	**TIME OF INSPECTION (START)** **TIME OF INSPECTION (FINISH)**	**CHECKED Y/N**	**REMEDIAL ACTION REQUIRED**
HOSES AVAILABLE ON SITE AND FREE FROM HOLES (IN GOOD WORKING CONDIITON)			
ELECTRICALS (WIRES SHOULD NOT BE FRAYED / DAMAGED AND SOCKETS NOT OVERLOADED)			
SPILL KITS / FIRE EXTINGUISHERS AVAILABLE AND FULLY STOCKED			
FIREWATER BOOMS AVAILABLE			
OTHER (SEE NOTES BELOW)			
INSPECTION CARRIED OUT BY			
NOTES/ACTION (CONTINUE ON A SEPARATE SHEET IF NECESSARY):			

CHECKED BY		**SIGNATURE**	
POSITION		**DATE**	
Sheet		**of**	

Appendix III

Complaints Form

Complaints Report Form	
Date Recorded	Reference Number
Name and address of caller	
Telephone number of caller	
Time and Date of call	
Nature of complaint (noise, odour, dust, other) (date, time, duration)	
Weather at the time of complaint (rain, snow, fog, etc.)	
Wind (strength, direction)	
Any other complaints relating to this report	
Any other relevant information	
Potential reasons for complaint	
The operations being carried out on site at the time of the complaint	
Follow Up	
Actions taken	
Date of call back to complainant	
Summary of call back conversation	
Recommendations	
Change in procedures	
Changes to Written Management System	
Date changes implemented	
Form completed by	
Signed	
Date completed	

Appendix IV

Dust Monitoring Form

KINGDOM RECYCLING LIMITED
DUST MONITORING FORM

WEEK BEGINNING				
DAY/DATE/TIME OF INSPECTION				
SHEET 1 OF	**COMMENTS BELOW (AS MUCH DETAIL AS POSSIBLE); IF COMMENT IS NO – ADD FURTHER COMMENTS**			
DAILY RECORDING INFORMATION	**DUST MONITORING POINT 1**	**DUST MONITORING POINT 2**	**DUST MONITORING POINT 3**	**OTHER AREA OF SITE - SPECIFY**
WEATHER CONDITIONS				
WEATHER TEMPERATURE				
WIND SPEED				
WIND DIRECTION				
PERIMETER INFRASTRUCTURE SUITABLE				
WATER JET SYSTEM FUNCTIONING				
ARE WASTE STORAGE STOCKPILES BELOW 5m				
DUSTY MATERIAL STORAGE VISIBLE FROM LOCATION				
ANY NOTICEABLE DUST / PARTICULATES ON THE GROUND NEAR THE LOCATION				
ANY DUST APPARENT OFF SITE				
EMISSIONS FROM PLANT/EQUIPMENT VISIBLE				
SMOKE FROM PLANT APPEAR TO BE SUITABLE				
HAS SITE MANAGEMENT BEEN INFORED OF THE INSPECTION				
DOES ACTION NEED TO BE TAKEN				
INSPECTION CARRIED OUT BY				
OTHER				

NOTES/ACTION (CONTINUE ON A SEPARATE SHEET IF NECESSARY):			
CHECKED BY		**SIGNATURE**	
POSITION		**DATE**	

Appendix V

Beaufort Wind Scale

Beaufort Wind Scale

Beaufort Number or Force	Wind Speed			Description	Effects Land / Sea
	Mph	km/hr	knots		
0	<1	<1	<1	Calm	Still, calm air, smoke will rise vertically. Water is mirror-like.
1	1-3 Mph	1-5 kph	1-3 knots	Light Air	Rising smoke drifts, wind vane is inactive. Small ripples appear on water surface.
2	4-7 Mph	6-11 kph	4-6 knots	Light Breeze	Leaves rustle, can feel wind on your face, wind vanes begin to move. Small wavelets develop, crests are glassy.
3	8-12 Mph	12-19 kph	7-10 knots	Gentle Breeze	Leaves and small twigs move, light weight flags extend. Large wavelets, crests start to break, some whitecaps.
4	13-18 Mph	20-28 kph	11-16 knots	Moderate Breeze	Small branches move, raises dust, leaves and paper. Small waves develop, becoming longer, whitecaps.
5	19-24 Mph	29-38 kph	17-21 knots	Fresh Breeze	Small trees sway. White crested wavelets (whitecaps) form, some spray.
6	25-31 Mph	39-49 kph	22-27 knots	Strong Breeze	Large tree branches move, telephone wires begin to "whistle", umbrellas are difficult to keep under control. Larger waves form, whitecaps prevalent, spray.
7	32-38 Mph	50-61 kph	28-33 knots	Moderate or Near Gale	Large trees sway, becoming difficult to walk. Larger waves develop, white foam from breaking waves begins to be blown.
8	39-46 Mph	62-74 kph	34-40 knots	Gale or Fresh Gale	Twigs and small branches are broken from trees, walking is difficult. Moderately large waves with blown foam.
9	47-54 Mph	75-88 kph	41-47 knots	Strong Gale	Slight damage occurs to buildings, shingles are blown off of roofs. High waves (6 meters), rolling seas, dense foam, Blowing spray reduces visibility.
10	55-63 Mph	89-102 kph	48-55 knots	Whole Gale or Storm	Trees are broken or uprooted, building damage is considerable. Large waves (6-9 meters), overhanging crests, sea becomes white with foam, heavy rolling, reduced visibility.
11	64-72 Mph	103-117 kph	56-63 knots	Violent Storm	Extensive widespread damage. Large waves (9-14 meters), white foam, visibility further reduced.
12	73+ Mph	118+ kph	64+ knots	Hurricane	Extreme destruction, devastation. Large waves over 14 meters, air filled with foam, sea white with foam and driving spray, little visibility.