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Cumbria Waste Recycling
Seal Sands HWTS Environmental Permit Application

Diffuse Emissions Management Plan

2025-12-22

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Seal Sands HWTS Environmental Permit Application

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Prepared for

Cumbria Waste Recycling

Seal Sands Hazardous Waste Transfer Station, Seal Sands Road, Seal Sands, Middlesborough, TS2 1UB

Submitted to

Environment Agency

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02	2025-12-22	For Issue

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No table of contents entries found.

Executive summary

This Diffuse Emissions Management Plan (DEMP) has been prepared as part of the Environmental Permit Application for Seal Sands Hazardous Waste Transfer Station (HWTS). This is required as a Best Available Techniques (BAT) and forms part of the Environmental Management System (EMS) at the site and to assist in the overall environmental performance of the site. A DEMP is required because the HWTS is applying for a new bespoke environmental permit and meet Environment Agency requirements to produce an emissions management plan for dust.

The BAT conclusions for Waste Treatment defines a diffuse emission as "*Non-channelled emissions (e.g. of dust, organic compounds, odour) which can result from 'area' sources (e.g. tanks) or 'point' sources (e.g. pipe flanges). This also includes emissions from open-air windrow composting*." This DEMP therefore details how the HWTS will manage these non-channeled emissions from activities taking place within the site in order to prevent or where that is not practicable, to reduce diffuse emissions to air. This DEMP identifies sensitive receptors within proximity of the HWTS and the site activities which have the potential to give rise to diffuse emissions of substances including, but limited to, dust, litter, organic compounds and odour. This DEMP also identifies the control measures that are in place at the HWTS which will control emissions and prevent pollution at off-site receptors. In the event of complaint being received at the site, this DEMP details the steps taken to investigate a substantiated complaint.

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This Diffuse Emissions Management Plan is subject to regular review as a result of operational changes, following substantiated complaints or as a result of a pollution incident. As a minimum, this Diffuse Emissions Management Plan will be reviewed every four years and the date of the next review is **December 2029**.

1. Introduction

1.1 Context

This document details the Dust and Fugitive Emissions Management Plan (DEMP) for all operations undertaken by Cumbria Waste Recycling (CWR) at Seal Sands Hazardous Waste Transfer Station (HWTS).

The DEMP sets out the control measures that will be utilised to minimise the likelihood of fugitive emissions and reduce the impacts from any fugitive emissions that are released.

Seal Sands HWTS is a transfer station for both hazardous and non-hazardous solid and liquid wastes with associated waste handling, storage, treatment and removal from site. Waste is removed from the site for further treatment or disposal at offsite locations. Waste treatments include:

- Physico-chemical treatment of liquid waste via gravity separation, adsorption and dissolving/neutralising
- Blending and mixing of liquid wastes
- Repackaging of solid wastes
- Crushing and baling of solid wastes to make onwards transfer more efficient.

A DEMP is required because the site will have a bespoke Environmental Permit (once issued by the Environment Agency) and is located within 500m of a sensitive receptor (namely Teesmouth and Cleveland Coast Ramsar site and SSSI) and has the potential to keep or treat waste materials that could give rise to dusty materials (e.g. wood, gypsum and incinerator bottom ash).

1.2 Site Details

The HWTS is located at the address given below and the area is highlighted in Figure 1 below.

Cumbria Waste Management Ltd

Seal Sands Hazardous Waste Transfer Station

Seal Sands Road

Seal Sands

Middlesborough

TS2 1UB

The national grid reference for the site is: NZ 53662 24741.

Cumbria Waste Recycling Ltd is the operator of the HWTS and the site is located within the Stockton-on-Tees Borough Council local authority area.

This site is not located within, or within 1,000m of an Air Quality Management Area (AQMA) for PM10, according to DEFRA.

The HWTS is located at Seal Sands industrial estate, Teesside, an industrial estate which has historically been used by the chemical industry and waste management industry, situated on the mouth of the River Tees. Much of the site comprises previously developed land laid to grass and low-lying vegetation because of decades of previous industrial activities on the site. There are also large areas of made ground, predominantly impermeable concrete, enclosed buildings and a number of different sized tanks and silos.

The site comprises of two areas, both of which are enclosed by a perimeter fence with access control:

- Area 1 (in the south) consists of gated access for waste deliveries and the site weighbridge. The main Warehouse for the internal storage of waste, a small Warehouse for secure internal storage of waste, external yards for additional waste storage, site Laboratory and site Office are also found in this location.

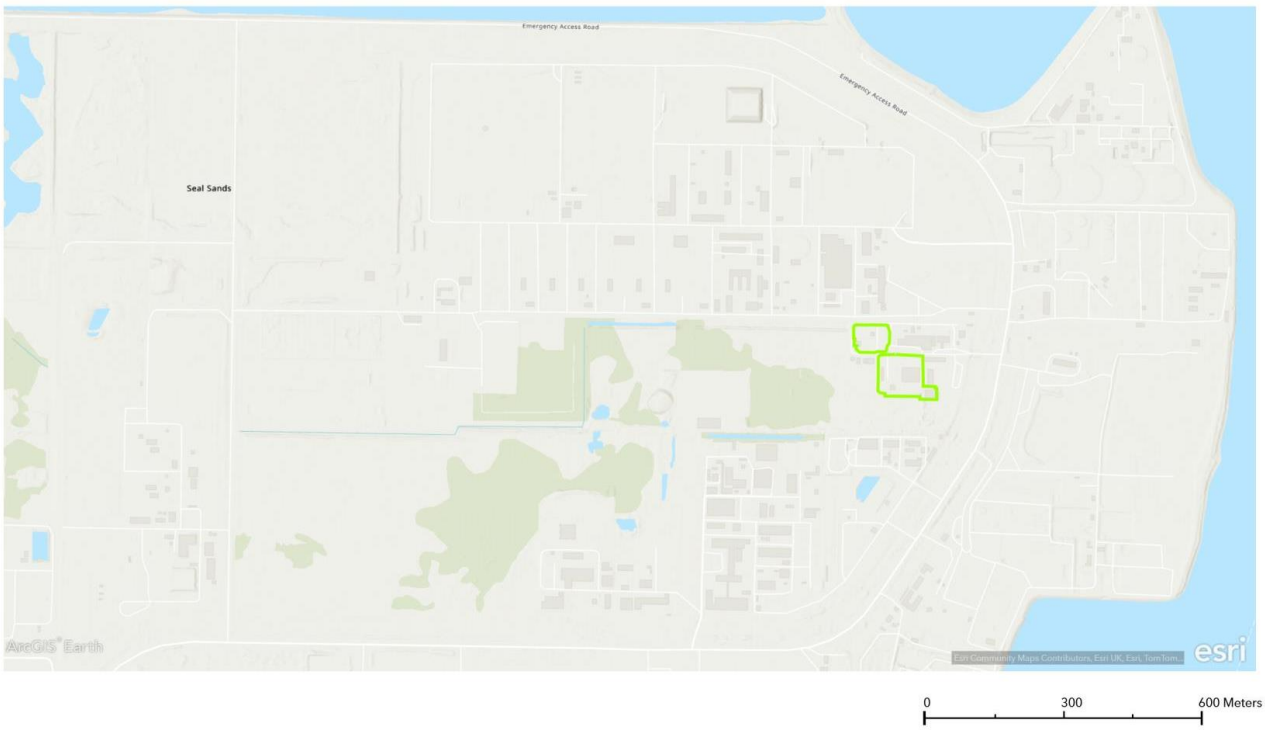
The main Warehouse will store a variety of compatible wastes with the exception of flammable wastes while the small Warehouse will be used to safely and securely store smaller volumes of organic peroxides and oxidisers. Bulking and repacking operations will take place in the site Workshop on the eastern side of the main Warehouse. The yard area comprises impermeable concrete surfacing which is resistant to the materials stored here and connected to a sealed drainage system. Kerbing around the impermeable surfacing forms a containment area beyond which the land is unmade.

The yard area within the western area of the site will be used for exclusive storage of flammable waste (including undercover storage). The second yard area to the south of the main Warehouse will store a variety of compatible wastes.

- Area 2 (in the north) consists of a yard area and a number of aboveground tanks which are connected by aboveground pipework. The yard area comprises impermeable concrete surfacing which is resistant to the materials stored here and connected to a sealed drainage system with a sump, that can be used to pump out waste waters generated here. The yard is an engineered bunded area with kerbing which forms a containment area and beyond the bunded area is unmade ground. A variety of compatible waste will be stored within the yard area.

  Of the aboveground tanks in Area 2, one of the tanks is used as a mixing tank for waste waters generated at the site and one of the tanks is used as an effluent discharge tank, for discharging waste waters to sewer. Both tanks are contained within a bunded concrete area. This discharge is via a private sewer connection.

Figure 1: Site Location



The site infrastructure consists of enclosed buildings and external storage facilities for a variety of waste that has evolved over time although has been reviewed and improvements made (where required) to the site surfacing and containment as result of CWR's new use of the site. This has included resealing concrete joints and adding additional ramps to create a larger bunded area.

The main Warehouse area is designed to contain suitable waste types inside of a building and store packaged wastes on racking, in rows that are separated by a suitable distance. To the side of the main Warehouse is a bulking and repackaging Workshop that is also enclosed. External storage facilities are fully bunded and designed for the storage of different packaged goods and wastes so that they can be segregated in accordance with HSG71

Chemical Warehousing, The Storage of Packaged Dangerous Substances (The Health and Safety Executive, 2009).

There are a series of large tanks in Area 2 which have been designed for the discharge of liquids to sewer and tanks that formerly were part of an effluent treatment plant. Tanks are designed for containment of liquid wastes and will have a maintenance and inspection schedule, are fitted with level sensors and have high level alarms. The tanks are located in a suitably designed bund.

CWR has engaged with the Local Planning Authority to obtain planning permission for the operation of a waste facility, but emissions such as dust have not been addressed in the planning process as of yet.

In the absence of suitable controls, the Site has the potential to release fugitive emissions of dust, litter, organic compounds and odour, due to the types of waste accepted, handled, stored, treated and removed from the site. These fugitive emissions could be released from the normal handling of wastes, sampling activities of wastes arriving at the site or being tested for compatibility, during the repackaging activities, during bulking activities and from spillages and accidents resulting in the release of waste from its primary packaging.

1.3 Objective

The primary objective of the DEMP is to provide detail of the proposed management arrangements and controls, to ensure diffuse emissions are well managed and do not have an impact beyond the site boundary.

This DEMP has been developed in line with Environment Agency guidance and incorporates the key principles from the following guidance:

- Control and monitor emissions for your environmental permit - https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit

This document is to be used along with the main Technical Support Document and Environmental Risk Assessment (ERA), which is included in the Environmental Permit Application.

The ERA aims to:

- Identify potential risks that the proposed activities may present to the environment;
- Screen out those that are insignificant and do not require detailed assessment;
- Identify potentially significant risk, where appropriate;
- Choose the right control measures, where appropriate; and
- Report the findings of the assessment.

This DEMP is part of the Seal Sands EMS and the latest version is available at the Transfer Station Manager's Office, within the Welfare Cabin and on the CWR intranet. Operational staff at the HWTS should refer to this DEMP in order to prevent diffuse emissions from the site and in the event of complaints received by the site.

The contents of this DEMP are relevant to the following groups of people:

- Site Operators
- Site Staff
- Contractors
- The Environment Agency

1.4 Sensitive Receptors

The site is located away from sensitive human receptors, the nearest of which are found approximately 3,800 m to the south west of the site and 4,200 m to the north of the site. Human receptors may be found on a temporary basis at nearby recreational facilities including the footpaths, car parks and hides associated with Teesmouth National Nature Reserve (NNR), approximately 2,000 m west of the permit boundary, North Gare Beach and South Gare Marine Club (both approximately 3,000 m to north east), either side of the mouth of the River Tees. Figure 2, below, shows the location of some of these human receptors (as indicated by the yellow pins) which are all located outside of a 1,000 m radius from the site.

Figure 2: Location of Human Receptors

There are no Local Nature Reserves (LNR) or Ancient Woodland sites within a 2,000 m vicinity of the site and no Marine Conservation Zones (MCZs), Special Areas of Conservation (SACs) or Special Protection Areas (SPAs) within a 10 km vicinity of the site. However there is one Site of Specific Scientific Interest (SSSI) and one Ramsar site (Teesmouth and Cleveland Coast Ramsar and SSSI), one NNR (Teesmouth NNR) and one Local Wildlife Site (LWS) (Zinc Works Bird Field LWS) within 2,000 m of the site.

The site is in Flood Zone 1 which indicates a low probability of flooding from rivers and the sea (less than a 0.1% or 1 in 1,000, chance of flooding from rivers and the sea). The site also has a low likelihood of flooding from surface waters with a small area of the site at risk of surface water flooding (annual exceedance probability of 3.3%).

The site is not located within a Source Protection Zone (SPZ).

The nearest surface water features are small surface water ponds located approximately 30m to the south and 175m to the west of the site. The nearest main river is the River Tees which is located approximately 525 m to the north east of the permit boundary. The Tees Estuary is a habitat for European Eels and a migratory route for the following: Atlantic Salmon, European Ell, River Lamprey and Sea Lamprey.

Figure 3: 1,000 m Screening Distance for Sensitive Receptors

The site is located within an industrial area at Seal Sands Industrial Estate. The wider site consists of buildings and impermeable ground, interspersed with areas of grass low-lying vegetation. The HWTS consists of a number of buildings and open storage yards that are constructed of concrete. Figure 3 shows the site location surrounded by a 1,000 metre threshold from the site boundary (allowing for approximately 100 metres distance from the midpoint of the site to the perimeter of the site). In regard to the surrounding area, there are no sensitive residential receptors within 1,000 metres of the site. The nearest residential receptors are approximately 3,800 metres to the southwest in the South Bank area of Middlesborough, on Middlesborough Road and 4,200 metres to the north in Seaton Carew in the form of houses on Vickers Lane and Avro Gardens.

Within a 1,000 metre buffer zone of the site, there are various receptors that are classed as industrial and hazardous-use facilities, which encompass bulk liquid storage chemical manufacturing, fuel production, waste management, and quality assurance services. These activities involve operations that must be considered when assessing the risks posed by potential fugitive dust emissions from this facility. Within the 1,000m threshold, as shown in Figure 3, the following receptors have been identified:

- Conoco Phillips, which is approximately 20m north of the site
- Greenergy Biofuels Teesside Ltd, which is approximately 70m south of the site
- Fine Environmental Services and Fine Organics Ltd, which are approximately 150m southwest of the site
- Intertek, which is approximately 225m east of the site
- Exolum Seal Sands Ltd, which is approximately 280m north east of the site
- Lianhetech Seal Sands, which is approximately 385m south west of the site
- Within 100 m of the site boundary, human receptors may be found including employees working at the Conoco Phillips fire station, within industrial buildings, associated yard areas and car parks that are situated around the perimeter of the site.

There are examples of sensitive receptors (where occupants are more susceptible to the adverse effects of exposure to high levels of dust and particulates such as healthcare or educational facilities) although none are within 1,000 m of the site, examples of such sensitive receptors comprise:

- St Peter's Catholic College, which is approximately 4,400m south of the site
- Grangetown Primary School, which is approximately 4,500m south of the site
- The Eston Surgery (Low Grange Health Village), which is approximately 4,700m south of the site
- Dormanston Primary Academy, which is approximately 4,750m east of the site
- Seymour House Nursing Home, which is approximately 4,800m north of the site
- High Clarence Primary School, which is approximately 4,900m southwest of the site
- Greatham C of E Primary School, which is approximately 4,900m northwest of the site
- Eston Lodge Care Home, which is approximately 4,900m south of the site
- High Clarence Primary School, which is approximately 5,000m southwest of the site
- Redcar Primary Care Hospital, which is approximately 6,650m east of the site.

Some of these receptors have been pinpointed onto the map in Figure 2 (above).

All receptors are included in Table 1-1, encompassing clean industry as well as human receptors.

Table 1-1 - Distances to Selected, Representative Locations, including Clean Industry Receptors

Site Name	Direction from Site	Approximate Distance from Site Boundary (m)	Sensitive Receptor (<1000m)
Conoco Phillips	N	20	Yes
Greenergy Biofuels Teesside Ltd	S	70	Yes
Fine Environmental Services and Fine Organics Ltd	SW	150	Yes
Intertek	E	225	Yes
Liantech Seal Sands	SW	385	Yes
Teesmouth and Cleveland Coast Ramsar and SSSI	N	430	Yes
Teesmouth NNR	N	640	No
Exolum Seal Sands Ltd	NE	650	Yes
Zinc Works Bird Field LWS	N	1,975	No
St Peter's Catholic College	S	4,400	No
Grangetown Primary School	S	4,500	No
The Eston Surgery (Low Grange Health Village)	S	4,700	No
Dormanston Primary Academy	W	4,750	No
Seymour House Nursing Home	N	4,800	No
High Clarence Primary School	SE	4,900	No
Greatham C of E Primary School	NE	4,900	No
Eston Lodge Care Home	S	4,900	No
High Clarance Primary School	SW	5,000	No

Site Name	Direction from Site	Approximate Distance from Site Boundary (m)	Sensitive Receptor (<1000m)
Stitchell House	NE	5,200	No
Redcar Primary Care Hospital	W	6,650	No

Not all of the receptors listed above are considered to be sensitive to the potential generation of fugitive emissions at the site.

- Receptors beyond 1,000 meters are considered to be too far away to be impacted by dust or particulate emissions.
- Of the nearby habitat sites, only the dual Ramsar and SSSI Teesmouth and Cleveland Coast site may also be sensitive to the dispersion and deposition of dusts and particulates due to its proximity within 500m of the site.
- Adjacent industrial facilities within Seal Sands Industrial Estate could be both sensitive receptors and sources of their own fugitive emissions (Table 1-2). Industrial receptors may be sensitive to dusts and particulates where air intakes are located facing towards the site, where materials are stored externally and where vehicles are parked.

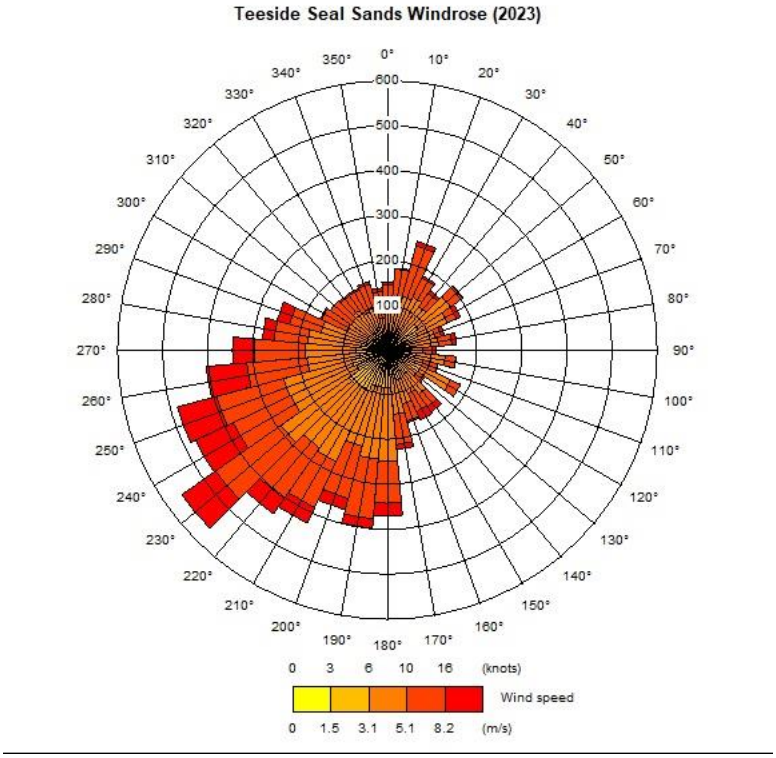
Table 1-2 – Sources of Fugitive Emissions

Company	Address	Type of Business	Approx distance from site boundary (m)
Conoco Phillips Car Park	ConocoPhillips (UK) Teesside Operator Limited, Teesside Operations, Seal Sands, TS2 1UH	Bulk Liquid Storage and Chemical Manufacturing	20
Greenergy Biofuels Teesside Ltd	Middlesbrough, TS2 1UB	Chemical Manufacturing	70
Train Tracks	n/a	Rail infrastructure	140
Liantech Seal Sands	Middlesbrough, TS2 1UB	Chemical Manufacturing	650
Tees Renewable Energy Plant Power Station	Tees REP Power Station, Middlesbrough TS6 6AF	Power Station	1,390
Tesco Distribution Centre	Middlesbrough TS6 6UD	Food Distribution	1,650
Agricultural Land	TS25 1DE	Agriculture	2,700
Seaton Carew Road	n/a	Road infrastructure	3,000

1.5 Wind Rose

A representative wind rose for for Seal Sands using data from 2023 is provided below in Figure 4. It is based on national weather prediction modelling and shows that the prevailing wind is normally from the south-westerly direction, and the wind speed is typically between 3.1 and 8.1 metres per second (6-16 knots). This indicates that emissions are likely to be dispersed to the north-east, away from the majority of sensitive receptors, with the exception of Intertek and Exolum Seal Sands.

Figure 4: Wind rose showing the average wind direction and strength at Seal Sands (2023)



2. Operations at Seal Sands HWTS

2.1 Waste Deliveries to Seal Sands HWTS

Waste deliveries to the site will be made by road using both vehicles owned and operated by Cumbria Waste Recycling/Cumbria Waste Group and by customers delivering waste using their own vehicles (third-party deliveries). Vehicles will include Heavy Goods Vehicles (HGVs), liquid tanker vehicles and smaller commercial vehicles.

Access to the Seal Sands Industrial Estate is via the public highway from the A1185/Seal Sands roundabout. The roads are all paved and will minimise and avoid the generation of dust and/or mud being tracked on to the HWTS site from vehicle movements. Deliveries will normally take place between 6am and 6pm.

All waste accepted at the HWTS are contained within sealed containers. Solid waste is typically delivered within type approved packaging, in accordance with the carriage of dangerous goods legislation (as required) depending upon the properties of the waste. Liquid wastes are delivered within sealed tanker vehicles and within sealed portable containers (e.g. Intermediate Bulk Containers (IBCs)).

Records of waste deliveries are retained by the site for a minimum of two years after the waste has been removed from the site or longer in order to comply with duty of care requirements to retain Hazardous Waste Consignment Notes for a minimum of three years. The site uses an electronic record keeping system which is backed up weekly. Waste deliveries require pre-booking and are subject to waste acceptance checks to identify unsuitable waste materials. All unsuitable materials would be rejected from the site if the waste is not appropriate for acceptance.

The different waste treatment processes handled at the HWTS are detailed below in Table 2-1. These are indicative of the waste handling, storage, treatment and removal processes that take place at the site and other wastes may also be handled.

Table 2-1 – Typical Wastes delivered to Seal Sands

Waste Treatment Process	Tonnes/week	Location on site	Process
Liquid oil / water wastes in suitable waste containers for physical treatment via gravity.	Maximum 100 tonnes per week for oil/water separation within a maximum of 2,000 tonnes for all wastes.	Delivered to and Removed from: Site Weighbridge and Waste Reception Area Storage within: Main Warehouse, Rear Yard, Bioplant (yard) Treatment: site Workshop, Flammable Area yard	Waste types are subject to oil/water separation by gravity within enclosed tanks and enclosed containers.

Waste Treatment Process	Tonnes/week	Location on site	Process
Liquid wastes in suitable waste containers for blending and mixing.	Maximum of 500 tonnes per week for consignment to cemfuel manufacturer within a maximum of 2,000 tonnes for all wastes.	Delivered to and Removed from: Site Weighbridge and Waste Reception Area Storage within: Main Warehouse, Flammable Area yard storage, Rear Yard, Bioplant (yard) Treatment: Flammable Area yard, site Workshop	Liquid wastes are subject to mixing for consignment offsite to cemfuel manufacture. Liquid wastes of the same type are combined into larger storage vessels. Other wastes are stored and transferred within their original packaging.
Liquid and solid wastes in suitable containers for bulking and repackaging	Maximum of 500 tonnes per week for bulking and repackaging within a maximum of 2,000 tonnes for all wastes.	Delivered to and Removed from: Site Weighbridge and Waste Reception Area Storage within: Main Warehouse, Flammable Area yard storage, Rear Yard, Bioplant (yard) Treatment: Flammable Area yard, site Workshop	Waste types are subject to transfer and physical bulking. Liquid wastes of the same type from small volume containers is manually poured or pumped into larger quantities prior to transfer offsite. Solid wastes are combined into larger quantities within secondary packaging such as larger waste containers or bins prior to transfer offsite.
Liquid and solid wastes in suitable containers for transfer only.	Maximum of 500 tonnes per week for transfer only within a maximum of 2,000 tonnes for all wastes.	Delivered to and Removed from: Site Weighbridge and Waste Reception Area Storage within: Main Warehouse, Rear Yard, Bioplant (yard) Treatment: Yards	Waste types are subject to transfer within secondary packaging only. Waste types are accepted by the site for temporary storage before they are removed from the site and transferred within the existing waste containers (primary packaging or two-part packages) to a recovery or disposal site.

2.2 Overview of Processes

Seal Sands HWTS is located at Seal Sands industrial estate, Teesside, an industrial estate which has historically been used by the chemical industry and waste management industry, situated on the mouth of the River Tees. A site layout plan is shown below in Figure 5.

The site comprises of two areas, both of which are enclosed by a perimeter fence with access control gates. Vehicles arrive at the site from the east from Seal Sands Industrial Estate, via the public highway from the A1185/Seal Sands roundabout. The roads are all paved and will minimise and avoid the generation of dust and/or mud being tracked on to the HWTS site from vehicle movements. Vehicles enter the site through access controlled gates and follow a one-way system through and around the site, starting at the site weighbridge where they present transfer documentation and are weighed for the first time.

A technical assessment will be completed by a qualified technical assessor (qualified to HNC Chemistry or equivalent) to confirm the waste is suitable for acceptance at Seal Sands HWTS. The Transfer Station Manager subsequently approves the deliver to the site.

If the load passes waste acceptance checks, the waste containers are unloaded from the vehicle under the supervision of CWR staff (or in the case of liquid waste in bulk tankers, pumped out of the tanker vehicle). The waste is received in the Waste Reception Area, outside of the main Warehouse. The waste is then taken to the Waste Acceptance Area which is located inside of the main Warehouse and subject to sampling and testing procedures. Internal transfers of waste containers utilises fork lift trucks and manual handling aids wherever possible.

Wastes that can be accepted into the site are transferred to the most appropriate storage location within their primary container and placed directly onto the floor on external yard storage area, onto racking within the main Warehouse or onto a temporary portable bund in either the main Warehouse or a yard. There is the potential for some fugitive emissions to be generated from waste storage, especially if waste containers are damaged upon arrival or not suitable for the wastes they contain, e.g. VOCs could be generated from formaldehyde evaporating from paint, or benzene from fuel. For this reason, it is important for waste acceptance procedures to be followed and any damaged containers or containers with loose fitting lids follow the waste quarantine procedure and placed into new packaging/containers. Good housekeeping and routine cleaning practices will prevent the build up of dust or mud in these areas, which will be removed as required by site staff.

As solid waste is contained within suitable containers it is not likely to give rise to emissions of litter. Site staff will use good housekeeping practices across the site through routine inspections to make sure external waste storage yards are free from litter. Where waste is stored inside of buildings, this will prevent emissions of litter to the environment. However, staff will still remove any litter that is generated. The site perimeter fence will also provide a layer of containment to wind-blown litter however due to the low likelihood of litter, micro netting will not be installed.

Waste treatments mostly take place within the bulking/repackaging Workshop. Packaged wastes are transferred using fork lift trucks and the waste treatment is undertaken depending upon the type of the waste and its compatibility for treatment:

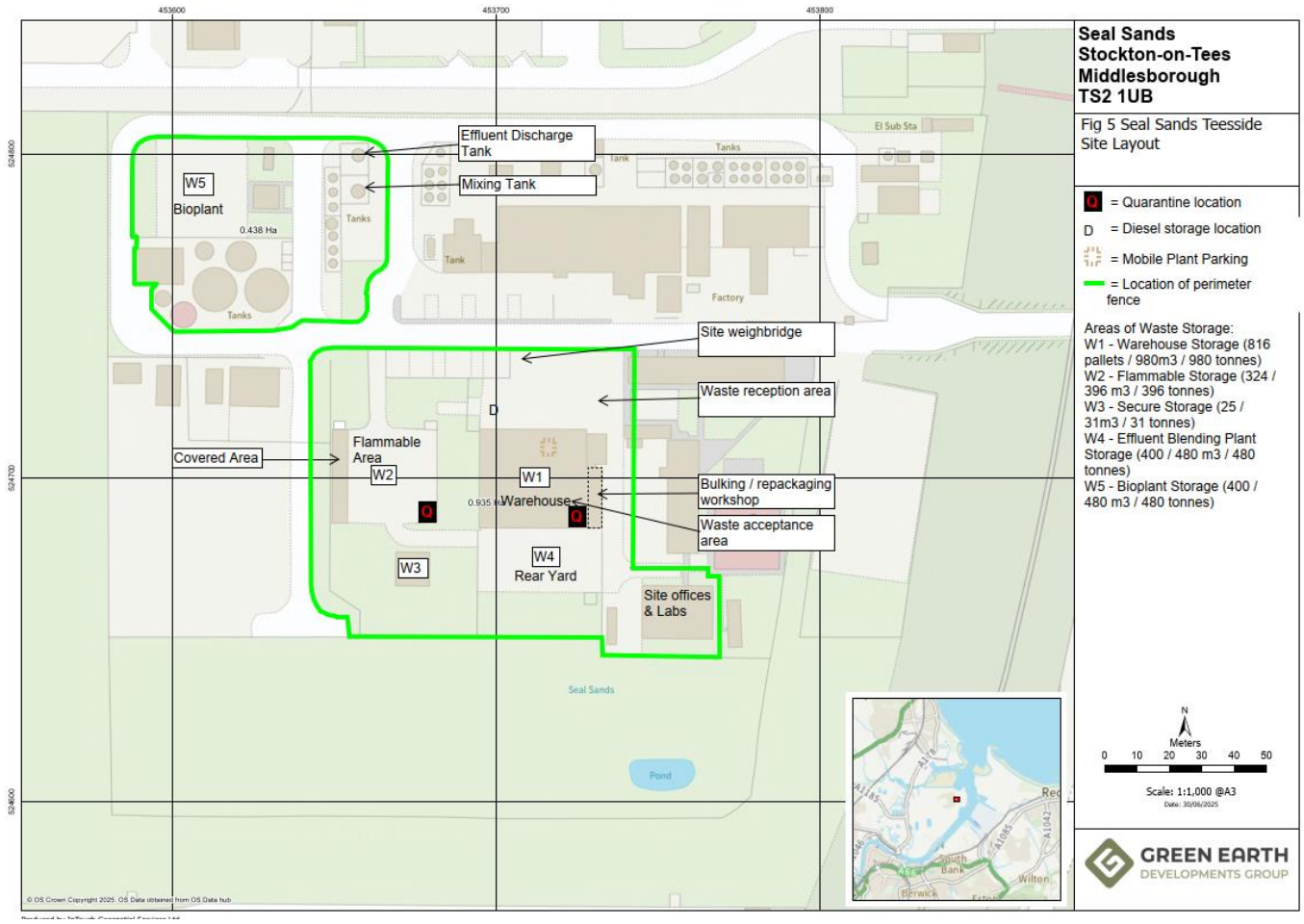
- Oil/water separation of waste waters is undertaken within enclosed containers and the nature of the wastes mean they are not prone to give rise to diffuse emissions such as dust and particulates. The waste is discharged from one container into larger containers or pumped into a large treatment tank. The treatment tank contains a small carbon filter to adsorb odour from the headspace within the tank which is generated as the tank fills and is emptied. This is not expected to be a significant source of odour or VOCs as heat is not applied to the process. Site staff should remain vigilant for emissions during pumping operations.
- High calorific wastes are prepared for consignment to the cemfuel manufacturer within the Workshop. Waste within suitable containers, normally IBCs, is transferred into the tanker vehicle using a ‘dead vac’ loading method. The nature of the waste means that it is not prone to give rise to diffuse emissions such as dust and particulates. If any waste may be odorous then the tanker vent will be put through a basic scrubber via a small hose. This will be either water or 15% sodium hydroxide in IBCs, this is to be confirmed by the site chemist.
- Repackaging and bulking of wastes will take place within the Workshop area. Waste containers will be transferred to the Workshop and opened. Although this is not expected to generate emissions of dust and particulates, the duration of storage and external nature of some waste storage may result in atmospheric dusts and particulates being deposited on the waste packaging during the waste storage. This may be disturbed and dispersed into the air from the normal handling procedures. Good housekeeping practices, routine cleaning and storing the waste containers on site for the shortest possible time period will minimise the likelihood of dust and particulates forming on waste containers. During summer months and/or extended periods of dry weather, additional cleaning routines will be implemented to remove dust from storage.
- The transfer of wastes will take place within the Waste Reception Area where wastes will be despatched from. Waste containers will be transferred and are not expected to be the source of fugitive emissions unless containers have been in storage for an extended period of time.

The site does not store waste loose and in bulk and therefore does not use storage bays. Instead, wastes are stored in containers (e.g. wheeled bins, IBCs and drums) which are not prone wind whipping. There are no fixed diffuse emission suppression systems required at the site, as diffuse emissions of dust and particulates are not

expected under normal conditions due to the nature of the operations and waste types handled. As required, impermeable surfaces are subject to manual and mechanical cleaning.

The site does not have a wheel wash facility to clean vehicles leaving the HWTS as vehicles are not likely to be sources of dust, dirt and debris on tyres and undercarriages as they will not visit construction sites and the site roads are all constructed of concrete/asphalt. To prevent tracking of material onto the public highway, manual cleaning facilities are available for vehicles to be cleaned on impermeable areas of the site before they leave the site.

Figure 5: Site Layout



2.3 Mobile Plant and Equipment.

Nitrogen Dioxide gas is a by-product of internal combustion engines and the site uses several items of plant with internal combustion engines. The following table lists the type, mobile and emission ratings for the mobile plant and equipment used on site:

Table 2-2 – List of Mobile Plant

Description	Make	Model	Emission Rating
Fork lift truck (electric)	Linde	Very Narrow Aisle Truck, Series 5224	Zero Emission

Description	Make	Model	Emission Rating
Telehandler fork lift truck (diesel)	JCB	30D-19D	Stage V

All mobile plant and equipment will be owned by the company and there is a programme of planned and preventative maintenance which will be applied at the site. This will be in accordance with manufacturer's specifications. All mobile plant operators must have an appropriate training certificate/license to operate mobile plant and will complete daily plant checklists to ensure the mobile plant/equipment is safe to operate. In the event of a defect being identified, this will be reported and the equipment taken out of service (if required).

3. Dust and Particulate (PM_{10}) Management

3.1 Responsibility for Implementation of the DEMP

The Transfer Station Manager has responsibility for the day-to-day operations of the Seal Sands HWTS and is responsible for confirming all site personnel are suitably trained and competent to perform their roles including compliance with this DEMP and for preventing emissions of dust and particulates. The Supervisor Operator is responsible for supervision of other staff completing the day-to-day tasks of the Transfer Station and be aware of what activities are being undertaken.

The Transfer Station Manager in conjunction with the Environment Manager is responsible for reviewing and updating this DEMP. The DEMP will be regularly reviewed and will be due for review four years from the date of approval, or, as a result of any incidents which may lead to the requirement for immediate review. This DEMP will also be reviewed following:

- A change being identified as a result of a new risk assessment or updated risk assessment;
- A substantiated complaint from an off-site receptor;
- Following a change in processes at the site; and
- If new sources of fugitive emissions are identified.

The Transfer Station Manager is responsible for confirming that all staff are suitably trained to perform their job roles. All Site Staff operating at the site, under supervision from the Supervisor Operator, are responsible for adhering to CWR Working Instructions and working safely at all times. Records of training and competence are made on individual training records, which are stored electronically.

3.2 Sources and Control of Fugitive Emissions

Table 3-1 below details the source pathway receptor model for the Seal Sands Hazardous Waste Transfer Station site although each source of dust and particulates is considered to be a low risk due to the existing controls in place and the types of waste containers used by the site.

Table 3-2 lists the control measures and preventative measures associated with the site, although the risk of dust and particulates is considered to be low. In the event that dust and particulates are observed on the site or are generated, remedial measures used within the Seal Sands Hazardous Waste transfer Station site.

Table 3-1 – Source-Pathway-Receptor Routes

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Tracking dust on wheels and vehicles, then mud dropping off wheels/vehicles when dry	Receptors at Seal Sands Industrial Estate	Visual soiling of local roads. Resuspension as airborne particulates	Remove mud before vehicles leave site through cleaning (if required). Vehicles travel along well maintained highways before arriving at the site. Vehicles exit the site through an internal site road which may require to be cleaned if dust is tracked offsite. If required a road sweeper will be used. Good housekeeping and cleaning practices to maintain the site.
Debris	Falling off lorries Dispersing from waste containers	Receptors at Seal Sands Industrial Estate Teesmouth and Cleveland Coast Ramsar and SSSI	Visual soiling of local environment. Resuspension as airborne particulates	Waste vehicles are enclosed to prevent the escape of waste. Waste containers are fully enclosed. All waste container lids to be securely closed when being moved. Good housekeeping and cleaning practices to maintain the site.
Unloading, storage and sorting of wastes in the open	Atmospheric dispersion	Receptors at Seal Sands Industrial Estate Teesmouth and Cleveland Coast Ramsar and SSSI	Visual soiling and airborne particulates	Waste is unloaded and moved using suitable mechanical equipment and manual handling aids. Liquid wastes in bulk containers will be pumped out using suitable pumps. Waste containers will be unloaded using mechanical equipment or tail lifts. All waste container lids to be securely closed in yard storage. Spill procedures implemented in the event of a leak that results in escape of waste during loading/unloading.
Storage and sorting of waste inside buildings	Escape from buildings and subsequent	Receptors at Seal Sands Industrial Estate	Visual soiling and airborne particulates	Waste is moved using suitable mechanical equipment and manual handling aids. All waste container lids to be securely closed within storage.

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
	atmospheric dispersion	Teesmouth and Cleveland Coast Ramsar and SSSI		Sampling or testing procedures take place inside of the building and containers are opened for minimal durations. Spill procedures implemented in the event of a leak that results in escape of waste during internal movements/storage.
Vehicle exhaust emissions	Atmospheric dispersion	Receptors at Seal Sands Industrial Estate Teesmouth and Cleveland Coast Ramsar and SSSI	Airborne particulates	Anti-idling policy in place for vehicles. Fork lift trucks are used intermittingly to move waste containers. Maintenance of vehicles is carried out in accordance with manufacturers' recommendations and subject to environmental standards of MOT test checks.
Non road going machinery exhaust emissions	Atmospheric dispersion	Receptors at Seal Sands Industrial Estate Teesmouth and Cleveland Coast Ramsar and SSSI	Airborne particulates	Anti-idling policy in place for vehicles. Fork lift trucks are used intermittingly to move waste containers. Maintenance of vehicles is carried out in accordance with manufacturers' recommendations
Site surfaces	Atmospheric dispersion	Receptors at Seal Sands Industrial Estate Teesmouth and Cleveland Coast Ramsar and SSSI	Airborne particulates	Waste is stored in containers and is not stored in loose/bulk directly on the floor. Waste containers are fully enclosed. Good housekeeping and cleaning practices to maintain the site. If required a road sweeper/mechanical cleaning will be used.

Table 3-2 – Measures that will be used on site to control dust/particulates (PM_{10}) and other emissions

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Preventative Measures			
Enclosure within buildings	By creating a solid barrier between the source of dust particulates and the environment and receptors, there will be a high level of control of the dust and related emissions.	The design of the facility incorporates this preventative measure and some activities are enclosed within a buildings. Operations being carried out within a building will prevent dispersion of lightweight materials by wind. Storage must comply with the requirements of the Storage of Packaged Dangerous Substances. Procedures shall be in place for the maintenance of buildings and their integrity.	The site is not located within an AQMA. Emissions of dust and particulates are not expected from site activities. Waste treatments will take place inside of an enclosed building. Storage of wastes outside of enclosed buildings will utilises enclosed waste containers.
Site / process layout in relation to receptors	Locating particulate emitting activities at a greater distance and downwind from receptors may reduce receptor exposure, provided that emissions from the source are not dispersed over significant distances.	Waste activities will take place away from the nearest receptors, located to the north of the site. The design of the site means buildings may act as a barrier to the prevailing wind and air dispersion.	Sensitive human and ecological receptors are located at a large distance from the site and not likely to be implemented. Staff follow Working Instructions and will be trained in equipment use.
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Reducing vehicle movements and idling should reduce emissions from vehicles. Procurement policy to only purchase clean burn road vehicles and non-road going mobile machinery. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels.	Easy to implement as part of good practice. Should be identified clearly in the site management system and implemented as appropriate measures.	Vehicles using the site will be subject to site rules, 5 mph site speed limit and an anti-idling policy to reduce emissions. Vehicles will be pre-booked to minimise queuing vehicles at the site. The site has a one-way route that will minimise the need for reversing manoeuvres. Site plant is used intermittently to move waste containers internally.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Minimising drop heights for waste. Use of enclosed chutes for waste drops/end of conveyor transfers and covered skips / storage vessels.	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be blown and dispersed by winds. Enclosing processes will further reduce dispersion.	These steps should be identified clearly in the site management system and implemented as appropriate measures.	Waste is not handled in bulk so the site does not utilise drop heights, chutes, conveyor transfer as waste arrives suitably packaged. Waste containers are enclosed. Waste containers are moved using fork lift trucks and manual handling aids which minimises the heights at which they can be handled. During bulking and repackaging, waste handling will be restricted to low-level heights and not liable to be dispersed by wins.
Good house-keeping	Having a consistent, regular housekeeping regime that is supported by management, will ensure site is regularly checked and issues remedied to prevent and remove dust and particulate build up.	Easy to implement and requires minimal equipment. Encourages a sense of pride and satisfaction amongst the staff which promotes vigilance and a positive culture. Documentation of inspections and subsequent actions will be maintained, providing a clear log of measures undertaken.	The site is maintained following a planned preventative maintenance schedule. Routine cleaning practices will be implemented throughput the site.
Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Inbound and outbound loads of materials or products, respectively, will be transported in secure loads that are either sheeted or fully enclosed, to avoid particulate release.	Wastes will arrive fully enclosed within waste containers or inside of fully enclosed rigid vehicles or larger vehicles with curtain sides.
Hosing of vehicles on exit	To ensure as much dust and particulates are removed from lower parts of vehicles as possible, prior to exiting the site, hosing of vehicles can be carried out (if required).	A wheel wash is not currently anticipated to be needed but access to water supply and hose will be made available in the event of the presence of dusts.	This is not likely to be required as the materials being handled on site and vehicles arriving at the site do not inherently pose such risks.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
			Hosing of vehicles may also be required if a substantiated complaint is received from an off-site receptor or if vehicle is particularly dirty. CWR vehicles subject to daily vehicle checks.
Ceasing operation during high winds and/or prevailing wind direction	Mobilisation of dust and particulates is likely to be greater during periods of strong winds and hence ceasing operation at these times may reduce peak pollution events.	Likely to reduce dust and particulate emissions, however, not a long-term solution. Procedures should be in place to identify when operations will cease. May require a weather station to be installed.	Not anticipated to be regularly and normally required as treatment operations are normally undertaken inside of enclosed buildings. If excessively high winds are experienced, external activities may be ceased if this presents a danger.
Easy to clean concrete impermeable surfaces	An easily cleaned surface, such as concrete, will be useful in reducing the amount of dust and particulate generated at ground level by site operations. This is compared to uneven or unmade ground. Site speed limit enforcement reduces re-suspension of particles.	The design of the site includes impermeable surfaces and an internal road around the HWTS including site access roads and car parks. Visitors to site will be provided with copies of the site rules at site induction.	Normal and regular use of internal roads by vehicles. Site drainage will capture any wash waters used for cleaning small areas of site. Access to road sweeping equipment if required.
Remedial Measures			
Prioritising removal of problematic wastes	Wastes generating fugitive emissions may be managed via prioritising their removal from site (ahead of more typical FIFO) although finer particles may be further mobilised by handling/transfers. This removes the source of emissions and prevents potential impacts on offsite receptors.	Easy to implement and very effective at eliminating potential sources. Waste movements are an active day to day operation of the site management. Requires co-ordination between off-site facilities to accept wastes in accordance with their own permit requirements. More than one off-site disposal facility could be required.	Fugitive emission report from site staff. Daily site inspections will identify sources of dust and particulates at the site.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
On-site sweeping	Larger debris, dust and particulates may be managed via regular cleaning regimes on site, however, finer particles may be further mobilised by such actions. Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside. This may generate dust and particulate movement that may become a Health and Safety issue if the filters and spray bars on the sweepers are not maintained.	Routine housekeeping and cleaning routines will be implemented at the facility. Management systems will also consider this and ensure implementation of such routine	Daily site inspections will identify sources of dust and particulates at the site. Cleaning routines for the HWTS and site sweeping will be incorporated into routine housekeeping measures, as part of normal operations on site. This will continue throughout the operation of the site. Dry and windy weather may require enhanced cleaning routines. Remedial road sweeping may also be required if a substantiated complaint is received from an off-site receptor or in the event of weather conditions resulting in flooding/mud deposition.
Water suppression with hoses & water jets	Site areas can be dampened down reducing dust and particulate dispersion, assisting in the cleaning of site areas, particularly when combined with sweeping. A bowser can be used to efficiently damp down large areas of the facility	Quite water intensive. Consideration of water sensitive materials that are stored on site in specific locations. Maintenance should be covered in the management system and procedures.	Additional cleaning as identified by site management or as a result of site checks indicating accumulation of dust and dirt. During periods of hot and dry weather conditions IBCs of water can be moved to areas where dust may accumulate. If a substantiated complaint is received from an off-site receptor then additional water suppression may be required.

3.3 Other considerations

3.3.1 Water usage/ availability:

The site drainage system will capture surface water within a sealed drainage system that is pumped into two tanks with a combined volume of 190m^3. Surface water can also be stored within IBCs that are present on the site.

Water for remedial cleaning can be re-circulated (where appropriate) in order to minimise the quantity of water consumed at the site, which is not expected to have a significant water requirement.

3.3.2 In the event of a drought:

The site has the capacity to store water from surface water runoff in the event of drought conditions within storage tanks and portable containers and will maintain a minimum level of water for site use at all times.

Remedial cleaning measures utilises re-circulated water within the site (where appropriate) and there are no discharges to sewer or surface water from the site. This will significantly reduce the quantity of water needed, especially during drought conditions, meaning the site can still control dust and particulate emissions. In the event of drought and during normal conditions, the primary form of dust and particulate control will be preventative measures to minimise the need to undertake remedial cleaning and consume water.

3.4 Enclosure of Waste Processing & Storage Areas

Figure 5 shows the site layout and indicates which areas are enclosed within buildings and which are yard storage area. There are also impermeable surfaces which are not used for storage of wastes. Waste treatments take place inside of the Workshop area and inside of containers which are considered to be fully enclosed.

The only activity which takes place outside is the storage of waste in yard areas and takes place inside of suitable waste containers. Flammable wastes are largely stored outside within a suitable bunded area in order to separate this type of waste from the different types of waste stored on site.

3.5 Visual Dust Monitoring

At all times dust will be monitored by visual inspections only. The Transfer Station Manager will ensure dust management measures are undertaken as appropriate to the site operations and current weather conditions. Results from dust monitoring will be recorded in the site diary.

Any incidents of dust emissions as a result of waste handling, waste storage and waste treatment activities will be reported to the Transfer Station Manager and recorded on the internal company reporting Near Miss / Incident / Accident reporting and tracking system. This system is accessible to all employees, visitors and contractors working at the site.

4. Particulate Matter Monitoring

The site is located within an existing industrial area that is not within an Air Quality Management Area. Aside from other industrial buildings, the site is over 4000m away from the nearest sensitive human receptor.

It is not expected that additional monitoring of fugitive particulate matter is required other than requirements within the Environmental Permit. The site will utilise visual inspections only unless there are changes with the site operations which would result in sources of dust and particulates. Following a significant change, this DEMP will be reviewed and monitoring equipment installed if required.

4.1 Monitoring Location

Section not applicable

4.2 Operation of the PM Monitoring Equipment

Section not applicable

4.3 Quality Assurance/Quality Control and Record Keeping

The site will record information relating to dust observations and weather condition observations (supplemented with public sources e.g. BBC Weather) within the site diary at Seal Sands HWTS. This will be maintained by the Transfer Station Manager.

Details of dust monitoring, incidents related to dust pollution and complaints regarding dust at offsite receptors will be retained within Cumbria Waste Recycling's internal company reporting Near Miss / Incident / Accident reporting and tracking system and stored in accordance with company procedures.

4.4 Equipment and Data Management

Section not applicable

4.5 Reporting of Data

Information relating to dust emissions will be reported to the regulator, the Environment Agency, in line with the requirements within the Environmental Permit (when issued). Incidents of fugitive emissions of dust that result in pollution will also be reported to the regulator as per the relevant Notification Schedule from the Environmental Permit or by contacting the Environment Agency by telephone in an emergency on:

Environment Agency Incident Hotline: 0800 807060

For full details of the Environment Agency reporting requirements, the Environmental Permit can be found on the Site Noticeboard, Transfer Station Manager's Office, within the Welfare Cabin and on the CWR intranet. Details of the Environmental Permit will also be displayed on a noticeboard at the site entrance along with contact details for the site and the Environment Agency.

4.6 Additional Detailed Monthly Reporting

In the unlikely event of dust emissions impacting on offsite receptors and resulting in a substantiated complaint against the site, this will be investigated by the Transfer Station Manager. If required, additional monitoring may be commissioned from a specialist supplier. This will be completed to identify if sources of dust/particulates are coming from offsite sources and not from the activities of the HWTS, or whether background levels are elevated by other regional or national sources.

5. Actions when alarm is triggered

There are no automatic dust monitors at Seal Sands HWTS but all staff are responsible for monitoring for fugitive emissions when carrying out tasks. In the event of dust emissions during site activities or if the Transfer Station Manager or Supervisor Operator notices emissions of dust the following actions will be taken:

- The site staff notify either the Supervisor Operator or Transfer Station Manager of the emissions of dust, particulates or other fugitive emissions by verbally reporting the incident.
- The Supervisor Operator will assess site activities that are being carried out to identify if the source of the dust has arisen from within the site.
- If it is established that the cause of the emissions is one of the treatment activities, the treatment activities will be reduced or suspended as required to prevent further emissions. If it is established that the cause of the emissions is from one of the waste containers, actions will be taken to prevent further emissions. This may include moving the waste container, repackaging the waste container or cleaning the container. Any action taken will be recorded in the site diary and reported within the company reporting system (if required).
- Where the source cannot be identified with certainty, an assessment will be made of all the activities taking place at the site and those which are a likely cause of dust will be paused in order to reduce potential emissions.
- Where sources of dust and particulates are impacting on the site from an off-site source and neighbouring facility, the details of event will be recorded in the site diary and company reporting system (if required).
- Information will used to investigate a complaint in the event of one being received by the site or the company.

When recording dust events, the Transfer Station Manager will include details of the:

- date, time and duration of the event;
- the weather conditions at the time of the event;
- known location of the source of the dust emissions; and
- Any details as required by the site Environmental Permit.

6. Reporting and Complaints Response

In the unlikely event of dust emissions impacting on offsite receptors and resulting in a substantiated complaint against the site, this will be investigated by the Transfer Station Manager. The investigation will aim to determine the root cause of the incident and how to prevent the incident reoccurring. Findings and trends are discussed at board level and are also used to help establish objectives for improvement.

Details of incidents related to dust pollution and complaints regarding dust at offsite receptors will be retained within Cumbria Waste Recycling internal company reporting Near Miss / Incident / Accident reporting and tracking system and stored in accordance with company procedures.

When an external complaint is received, CWR will aim to acknowledge the complaint within 24 hours or on the next working day. All complaints relating to dust and particulate emissions will be investigated promptly, and appropriate remedial action will be taken if the complaint is validated. CWR will aim to respond to all enquiries within 5 working days. Following a substantiated complaint, the site will review the handling and/or treatment processes to identify improvements that can be implemented in order to minimise future occurrences.

6.1 Engagement with the Community

The location of Seal Sands HWTS is within an industrial estate, away from sensitive residential receptors but Cumbria Waste Recycling will aim to be a good neighbour to the other businesses operating at the industrial estate.

Cumbria Waste Recycling will engage with all of its immediate neighbours to establish an open-door policy. This will encourage and enable any complaints from neighbouring premises (if received) to be dealt with immediately. Details of how to contact the site will be available at the site entrance on the site notice board which will also include contact details for the Environment Agency.

In the unlikely event of a significant dust and particulates release occurring at the site, the Transfer Station Manager will act as an Incident Controller and contact neighbouring sites, if deemed necessary. In the event of the Transfer Station Manager not being onsite, their designated deputy will act as emergency co-ordinator and Incident Controller

6.2 Reporting of Complaints

For members of the public wishing to report a complaint, contact details for the HWTS will be displayed at the site entrance on the site noticeboard. Complaints may also be received by the CWR Customer Service team and contact details are available on the company website.

If a complaint is received regarding dust or particulate emissions, all written complaints will be acknowledged within 24 hours (Monday–Friday) or the next working day. The complaint will be investigated by a team member, and a resolution or update, including any necessary escalation to a manager, will be provided within 5 working days.

Details of dust complaints will be recorded on CWG electronic system.

6.3 Management Responsibilities

The Transfer Station Manager has overall responsibility for this DEMP and investigating complaints received at the site in accordance with the company complaints procedure.

6.4 Summary

Seal Sands HWTS will manage a variety of different hazardous and non-hazardous wastes that have the potential to give rise to dusts. To prevent impacts on nearby receptors, the site will take appropriate measures to prevent these fugitive releases.

The two main preventative measures used will be enclosure of suitable wastes inside of an enclosed building and containment of wastes within suitable waste packaging containers/tanks. These measures will prevent fugitive emissions from occurring and having the potential to impact neighbouring facilities with Seal Sands Industrial Estate.

The site will utilise yard storage for some of the waste containers and there is a potential for atmospheric dust and particulates to be deposited on waste containers in storage. The could be disturbed when handling these containers and lead to fugitive emissions. To prevent this from happening, the site will implement good housekeeping and routine cleaning of all areas. Site staff will also be responsible for preventing wastes escaping from waste containers by following Work Instructions when handling the wastes, especially if outside of a building. In the event of litter, this will be promptly collected and disposed of.

To confirm housekeeping standards are being maintained, the site will complete daily site checks of the site, infrastructure and equipment.

Contact details for the company and the site will be available at the site entrance and all complaints received will be investigated and responded to. The company aims to respond to all complaints within 5 working days.

This plan is subject to regular review as a result of operational changes, following substantiated complaints or as a result of a pollution incident.

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