

ELLESMERE PORT WASTE TREATMENT  
FACILITY


ODOUR MANAGEMENT PLAN

DUNTON TECHNOLOGIES LIMITED

DECEMBER 2019



<b>SUMMARY TABLE</b>	
<b>SITE:</b>	Ellesmere Port Waste Treatment Facility – Odour Management Plan
<b>CLIENT:</b>	Dunton Technologies Limited
<b>DATE:</b>	December 2019
<b>REFERENCE</b>	IV.306.19
<b>DEVELOPMENT PROPOSAL:</b>	Operation of a Hazardous and Non-Hazardous Waste Treatment Facility.

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Date:	December 2019	
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## CONTENTS

1.0	REVIEW .....	1
2.0	INTRODUCTION .....	2
3.0	POTENTIAL SOURCES OF ODOUR .....	3
4.0	ODOUR PATHWAYS.....	11
5.0	POTENTIAL RECEPTORS.....	14
6.0	POTENTIAL IMPACTS .....	16
7.0	ODOUR MANAGMENT .....	17
8.0	MONITORING .....	21
9.0	ABNORMAL EVENS AND CONTINGENCY PLANS .....	23
10.0	ODOUR COMPLAINTS MANAGMENT .....	29
11.0	COMMUNITY LIAISON AND ENGAGEMENT .....	32
12.0	DOCUMENT REVIEW.....	33

## APPENDICES

Appendix A	Environmental Permit Boundary and Site Layout
Appendix B	Complaints Procedure
Appendix C	List of Permitted Wastes
Appendix D	Odour Monitoring Locations
Appendix E	Daily Log

## 1.0 REVIEW

### 1.1 Document Review Procedures

This Odour Management Plan is to be reviewed every year or when required by a change in operations, breach of permit, or substantial odour emissions.

**Table 1: Document Review**

Date of Review	Comments	Name and Signature of Reviewer	Date of Next Review
November 2019	Plan Prepared		November 2020

## 2.0 INTRODUCTION

### 2.1 Report Context

This Odour Management Plan (OMP) has been prepared by Ivy House Environmental Limited (Ivy) on behalf of the operator, Dunton Technologies Limited (Dunton) as part of the management of the proposed Hazardous Waste Treatment facility at the Ellesmere Port Site. The document has been prepared using the relevant Environment Agency guidance, as detailed in the document.

The report assesses the risk of odour at the facility and provides details of the odour management procedures that will be in place to control any odorous emissions at the facility. The purpose of this is to ensure that the risk of adverse odour impacts on potential nearby receptors is minimised.

Dunton wish to obtain a bespoke Environmental Permit to allow for the physical treatment of asbestos contaminated soils and to remediate hydrocarbon and heavy metal contaminated wastes via physical/chemical and biological treatment (hydrocarbon impacted wastes only) to produce recycled aggregates and soils. The site will also undertake additional waste activities, namely washing non-hazardous wastes to produce different fractions of soils/stones etc.

### 2.2 Objectives of the Odour Management Plan

This document has been prepared in accordance with Environment Agency guidance note 'H4 Odour Management'. It is specified in the H4 guidance that the operator must 'employ the appropriate measures necessary to prevent the odour pollution or minimise it when prevention is not practicable'.

As required by the H4 guidance document, the OMP seeks to:-

- Employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution;
- Prevent unacceptable levels of odour at all times; and
- Reduce the risk of odour releasing incidents or accidents by anticipating them and planning accordingly.

To meet the above objectives, this OMP considers the potential sources, releases and impacts of odour pollution and identifies appropriate opportunities for odour management.

### 3.0 POTENTIAL SOURCES OF ODOUR

The site which is the subject of this report is a proposed Hazardous Waste Treatment Facility with additional non-hazardous waste activities. The materials to be accepted on site will consist of hazardous wastes contaminated with asbestos, hydrocarbons and heavy metals from site remediation projects. The operator will also treat non-hazardous soils via soil washing to produce soils and aggregates.

The operator has applied for a bespoke Environmental Permit to allow the operation of a hazardous and non-hazardous waste treatment facility. Site treatment is to be via physiochemical and biological treatment. The Operator proposes to treat a maximum of 200,000 tonnes of waste per year via the following treatment methods:-

- Physico-chemical treatment of hazardous wastes (soil washing of hydrocarbon and heavy metal impacted wastes).
- Biological treatment of hazardous wastes (In-vessel bioremediation);
- Physico-chemical treatment of hazardous waste (picking of asbestos); and
- Physico-chemical treatment of non-hazardous waste (soil washing).

The site will have a daily capacity for treatment as follows:-

- 150 tonnes per day of asbestos wastes which will be hand picked;
- 200 tonnes per day of hazardous wastes which will undergo in-vessel bioremediation; and
- 480 tonnes per day of hazardous or non-hazardous wastes which will undergo soil washing

The proposed site layout is shown on Drawing No. DEL/IV.306.19/LAY/01. Further details of the location of the various elements of the activity are described below in general terms. They are described in more detail in the Operating Techniques document.

### 3.1 Inventory of Potentially Odorous Waste Streams

The incoming waste will comprise of hazardous wastes and non-hazardous wastes, which are sourced from a variety of sites which are undergoing remediation. This waste generally has some level of hydrocarbon, heavy metal and asbestos contamination from previous site practices.

The proposed waste types are provided in full in Appendix C, and are summarised below

### 3.2 Proposed waste types for Asbestos Picking

#### **Construction and Demolition Wastes (Including excavated solids from contaminated sites)**

- Concrete and soils containing asbestos, hydrocarbons and heavy metals;
- Soil and stones containing hazardous substances.

### 3.3 Proposed waste types for Bioremediation and Soil Washing

- Drilling muds and other drilling wastes containing heavy metals and hydrocarbons;
- Tank bottom sludges and maintenance sludges containing heavy metals and hydrocarbons;
- On-site effluent treatment wastes containing heavy metals and hydrocarbons;
- Wastes from gas treatment, sludges and filter cakes containing heavy metals and hydrocarbons;
- Dredging Spoil;
- Soils and stones containing hazardous substances;
- Bottom ashes containing hazardous substances; and
- Wastes from soil and groundwater remediation and wastes from the physico/chemical treatments of waste containing heavy metals and hydrocarbons.

### 3.4 Non-Hazardous Soil Washing

- Soils, dredging, bottom ashes and gully wastes.

### 3.5 Odour Generation Potential

The odour generation potential is linked to the age of waste prior to collection and the activities that were undertaken to produce the waste. A CIWM/WRAP review indicates that composition of odorous chemicals changes with time, some diminish whilst others increase, however overall it is recognised that the longer the storage time the greater the odour generation potential. In addition, it is also understood that the warmer the waste, the greater the odour production potential. The volume of waste stored and the depth of waste (which may result in anaerobic conditions and heat) are all factors that influence odour generation. These issues are all addressed in this report.

The components of odorous compounds in the wastes are likely to vary depending on proportion of the incoming wastes accepted. Odour tends to consist of a complex mix of chemicals in gaseous form, as described above, wastes of the nature to be accepted exhibit the following typical odours:-

- Hydrocarbons – VOCs, PAHs, BaPs etc. which generally exhibit petrol/solvent type smells.

The age of waste received and storage temperature and storage / treatment options will influence odour type and generation. It is recognised that in general increased odours are linked to longer storage of municipal type waste and movement of wastes in stockpiles which in turn can release odour. However only a minority of odorous compounds appear to increase consistently with longer storage, therefore targeting specific odorous compounds is difficult.

It is considered that actions aimed at reducing storage times, limiting stockpile sizes, limiting infiltration of rainwater, minimising temperature, limiting evaporative losses and controlling odorous inputs are preferable and more practical control methods.

### 3.6 Waste Reception

The design of the main reception area ensures that Waste Collection Vehicles (WCVs) can safely deposit waste within the reception area. Each incoming delivery of waste will be checked to confirm that it complies with the list of permitted wastes specified in the Environmental Permit.

### 3.7 Waste Storage

The site consists of designated waste reception area and storage areas, including a weighbridge and a quarantine area for non-conforming incoming wastes. This will ensure that



quarantined wastes do not contaminate those which have been deemed suitable for treatment. There will be specific areas for the segregated storage of hazardous and non-hazardous wastes awaiting treatment to prevent the cross-contamination of waste loads. Storage areas will also have dedicated sumps provided for runoff from hazardous and non-hazardous storage and treatment areas.

All areas where waste will be stored and treated will benefit from impermeable concrete surfaces with sealed drainage. Drainage details are provided on drawing DEL/IV.306.19/LAY/01. All runoff from the hazardous treatment areas will pass through an interceptor and GAC filter. The effluent will then be pumped into a holding tank where it will be tested. If the results pass the discharge criteria set by Dee Valley Water, then it will be discharged to sewer, if not then the effluent will be tankered off site as either hazardous or non-hazardous waste. Collected runoff from the non-hazardous treatment area and post treatment storage area will be reused on site as dust suppression or will be discharged to sewer under the Trade Effluent Discharge Consent.

The site layout has been designed so that Asbestos waste will be stored within its own designated area located to the south east of the site and treated within a specialised building as shown on Site Drawing DEL/IV.306.19/LAY/01. The asbestos wastes may have some level of hydrocarbon and heavy metal contamination. Therefore, the asbestos storage areas will benefit from negative pressure which will connect to a dedicated filter to ensure the storage of these wastes will not result in a build-up of VOCs underneath the covers, Dunton may additionally run all air from this area through the carbon filter which will effectively treat any odour associated with the storage area.

The hazardous waste treatment (bioremediation and soil washing) and storage and the non-hazardous waste treatment activities (soil washing) with associated storage will be undertaken to the east of the site. The hazardous waste storage arrangements will benefit from negative pressure to ensure the storage of these wastes will not result in a build-up of VOCs underneath the covers. The negative pressure system will be connected to a carbon filter which will effectively treat any odour associated with the storage area.

The non-hazardous wastes will be situated as shown on drawing number DEL/IV.306.19/LAY/01 and will be open to the environment. The operator shall assess at the waste acceptance stage whether these wastes are likely to lead to odour releases and may at this stage, either reject the waste or prioritise the treatment of the waste.

### 3.8 Waste Processing

Asbestos treatment will take place within a specially designed picking station which is standard for picking asbestos on sites undergoing remediation. The picking station will have negative pressure to ensure that airflow will be directed inwards and to a centralised point to prevent the release of asbestos fibres. All dust will be contained within a specialised filter which will be double bagged and disposed of as per Health and Safety Regulations.

All air that leaves the building will do so via a bag filter which will be specially designed to capture any asbestos fibres, the air may then be directed to a carbon filter to ensure that any hydrocarbon odour that is present in the waste is adequately treated prior to release.

Asbestos wastes which are to be treated will be wetted as per Health and Safety Guidance Note em5 and a Class H vacuum cleaner will be kept on hand at all times to vacuum any spills.

Hazardous waste will be treated as follows:-

- Pre-treatment utilising Lime;
- Addition of bio-accelerant mixture (nutrients and bacteria); and
- Biological treatment utilising In-vessel bioremediation techniques.

### 3.9 Pre-Treatment Utilising Lime

Due to the nature of the treatment process and the chemicals that are involved, it is necessary to 'pre-treat' the waste by screening and adjusting the pH and moisture content. This is achieved by the addition of Lime which acts as a soil conditioner and soaks up the water whilst increasing the pH to prepare the soil for the remediation process.

Lime is mixed with the hazardous waste in low concentrations, normally between 1 – 5% (with a maximum of 10%) depending on the water content of the waste stream being pre-treated. Waste which is to be pre-treated will be moved to the treatment area as shown on DEL/IV.306.19/LAY/01. Mixing will be achieved utilising a modified tractor that has a hopper on the front for loading and a tank on the back for delivery. The drop height and delivery speed can be manually managed to the waste that is to be coated.

### 3.10 Bioremediation

Once the Lime has been added, the waste is then covered, and the bio-accelerant will be applied via a misting spray which will be fitted to the containment system, to ensure that there are no emissions of bioaerosols. The site will treat up to 200 tonnes per day of contaminated soil wastes.

The biopile is then covered with HDPE to form an 'in-vessel biopile'. The biopile is connected to a negative pressure system to ensure a continuous controlled airflow through the waste and to ensure adequate oxygen supply to the bacteria within the waste. The air from the system is then passed through a carbon filter and a HEPA filter to treat any odour and to remove any additional hydrocarbons and bioaerosols prior to discharge to atmosphere.

All surface water runoff from the hazardous waste treatment and storage areas will be directed and stored in accordance with Drawing No DEL/A104070/LAY/01. The site will have two 10m<sup>3</sup> tanks on site which will collect runoff from storage and treatment areas. The site will ensure that it maintains separate drainage and storage for hazardous and non-hazardous wastes as shown on this drawing. Additionally, the waste water will be sampled to determine if it is hazardous or non-hazardous prior to any mixing taking place.

Any hazardous water will be removed from site for onwards treatment. Under no circumstances shall any hazardous water be released to sewer.

### 3.11 Soil Washing

Once the hydrocarbon and or heavy metal contaminated wastes have been accepted, the material will be unloaded into specially provided bays which will be clearly marked with the date, the quantity and hazardous characteristics of the wastes stored within. The site can safely store up to 3,630 tonnes of hydrocarbon and heavy metal contaminated wastes can treat a maximum of 480 tonnes per day. Hydrocarbon and heavy metal storage and treatment will be situated as shown on Drawing No. DEL/IV.306.19/LAY/01.

The soil washing facility methodology is as follows:

- The material is loaded by a Front Loader into a hopper protected by a 80mm (tbc) screen. The oversize reject is either reworked back into the process or finally disposed of appropriately. The finer material passes through the screen into the hopper feeder below from where it passes onto an elevator conveyor.
- An over-band magnet is positioned at the transition point to catch ferrous material as it falls onto the conveyor. Ferrous material is ejected into a small bay or skip.

- The material is elevated up onto a wash screen which removes most of the sand material. The sand is washed down into the sand sump. The larger material and lumps leave the wash screen and enter the log washer.
- The log washer consists of a pair of shafts rotating counter current with various paddles/hammers which form a screw action to move the heavy material up the log-washer with the paddles smashing up the material. Water is injected into the log-washer as a rinse with also the option of up-flow water for flotation.
- The heavy material exits onto a sizing deck where it can be graded into sizes (5-20mm and 20mm+ for example) with again sand being rinsed down into the sand sump.
- The light material floats off the front of the log-washer and is dewatered on a vibrating screen. The sand is washed through and collected into the sand sump.
- The sand and water have now been collected in a sand sump (tank). It is important to note from this point in the plant forward there will be oil recovery techniques employed on all tanks. The material is pumped into the OPS sand scrubbing plant. The particles are scrubbed and passed into a hindered flow separator unit. Sand particles sink and are removed using an Archimedean screw onto a dewatering screen where the moisture level is further reduced.
- The plant is planned to have a 2 stage fines treatment processes. Oil and scum is removed from the top of both tanks.
- The fines treatment units also include a hydrocyclone to cut the solids at the required size to isolate contamination. The pH can be modified to suit the material being treated. The pH would be adjusted to maximise solubility of the contaminant. The silty water from the base of each unit then passes to the sludge thickener where the solids are removed and sent to the dewatering unit (centrifuge or press).
- The water (plus the soluble metals) then has its pH adjusted to precipitate the contaminants back out of the water. This is done using a flocculator, electrocoagulation and DAF. The scum from the top of the DAF will contain much of the contamination – this can be pressed and disposed of.
- There is a slops oil circuit to recover the oil residues. This residue is pumped into a conical tank from which solids and water are decanted away, with the oil collected in IBC's for disposal.

The plant is designed not to have wet and dry waste processing at the same time (electrical interlock on hopper feeders). Wet waste enters into the system through the sizing screen at the end of the log-washer. Any oversize is screened out. The material which passes the screen then enters the process and is scrubbed by the OPS scrubber etc. This wet material maybe just water which passes through the plant with the appropriate treatment.

## 4.0 ODOUR PATHWAYS

### 4.1 Odour Pathway Characterisation

The principal mechanism for the transit of odorous emissions from site operations to adjacent sensitive receptors is via ambient air. The distance and direction that these emissions will be carried is determined by the following factors:-

- Source related pathways;
- Meteorological conditions; and
- Topography.

### 4.2 Source Related Pathways

The pathway an odorous emission takes from a site may depend on the specific source term and/or the location it arises from. The nature of the source related pathway could also influence the scale of the resulting impact on a sensitive receptor.

Odours emitted from the sources identified above are emitted to air and have the potential to be conveyed to the nearby receptors via transfer through the atmosphere.

The pathway an odorous emission takes from a site may depend on the specific source term and/or location it arises from. The nature of the source related pathway could also influence the scale of impact on a sensitive receptor.

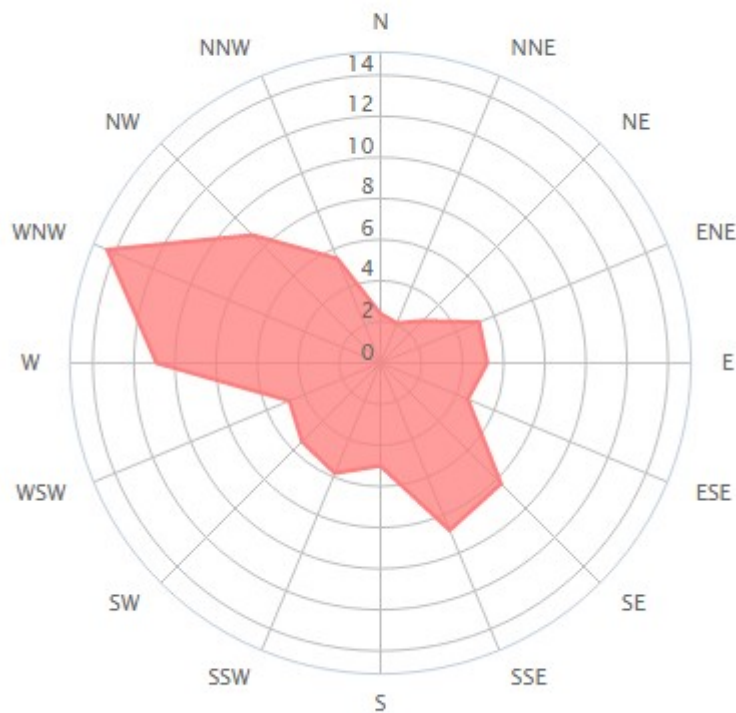
### 4.3 Meteorological Conditions

#### Wind Direction

The main controlling factor in determining the pathway of odour is the ambient meteorological conditions. This is fundamental to the transportation of odour to sensitive receptors.

The prevailing wind direction will determine which receptors will be affected and at what frequency. Meteorological data has been used from the Bebington/Birkenhead Station to the southwest of the site (which is considered to be representative of conditions within the vicinity of the application site). The wind rose data from this station has shown that the prevailing year-round wind direction in the local area is south, south westerly. The wind direction distribution as found on [www.windfinder.com](http://www.windfinder.com) is shown below.

### Wind direction distribution in %



#### Wind Velocity

Wind velocity will affect the distance an odour emission will travel. Conversely, increased wind speed could also beneficially improve dispersal. However, those receptors closest to the site itself are still at the highest risk of a negative impact.

#### Air Temperature

Warm air may carry odours upwards by convection for their dispersal away from the site. However, warm weather will encourage the onset of biodegradation of exposed or temporarily stored wastes and therefore increase odour potential. Therefore, in the summer months the risk of odour emissions is greater and this must be taken into account in the site procedures.

#### Adverse Weather Conditions

Unusual weather conditions, such as a heat wave, may increase the risk of odour emissions from the site. Site staff will be vigilant to unusual trends in the meteorological data or

forecasts which may indicate strong winds or extremes of temperature which may cause a potential problem.

#### **4.4 Topography**

The topography of the site and the surrounding area can influence the potential dispersion of odour emissions. The site is situated within a commercial/industrial area with the Manchester Shipping Canal located upwind of the site and commercial businesses being located downwind of the site.



## 5.0 POTENTIAL RECEPTORS

### 5.1 Identification of sensitive receptors

Locally sensitive receptors can be characterised as follows:-

- Domestic dwellings or workplaces;
- Public rights of ways; and
- Locally sensitive sites.

A Nature and Heritage Screen Request has identified a number of Habitats within 1km of the site. Other potential receptors within 1km of the site's Environmental Permit boundary have also been identified and are displayed in Table 2 below.

According to the wind rose data for the area, the prevailing wind direction in the local area is south east. Therefore, it is considered that the key potentially sensitive receptors are the industrial/commercial properties on North Road, industrial/commercial properties on either side of the M53 and the township of Overpool (properties on Carlton Crescent).

**Table 2: Location of potential receptors in relation to proposed installation**

Receptor	Direction from Operational Area	Minimum Distance from proposed permit boundary (approx..) (m)
Designated ecological habitats e.g. Ramsars, SAC, SPA, SSSI		
Mersey Estuary (SSSI)	NE	150
Mersey Estuary (SSSI)	NW	1571
Mersey Estuary (SPA)	NE	150
Mersey Estuary (SPA)	NE	1136
Mersey Estuary (SPA)	N	1164
Mersey Estuary (SPA)	N	1287
Mersey Estuary (RAMSAR)	NE	150
Mersey Estuary (RAMSAR)	NE	1136
Mersey Estuary (RAMSAR)	N	1164
Mersey Estuary (RAMSAR)	N	1287
Other Designations e.g. National Parks, ANOB, World Heritage Sites		
Ancient Woodland	S	1017
Ancient Woodland	SW	1717
Historic buildings / listed buildings / archaeological sites		
-		
Domestic Dwelling		
Properties on Carlton Crescent	S, SW	1,000
Schools, Shops, Commercial and Industrial		
Vauxhall Melo	S	10

Infrared	SE	10
Vauxhall Motors	SW	266
Less Common Metals	SW	400
Less Common Metals	W	380
DHL Automotive – Ellesmere Port	W	810
Hooton Park Trust	SW	990
The Griffin Trust	SW	950
Vauxhall ED Car Park	SW	890
Formula Tanker Rental	SE	700
Laker Vent Engineers	SE	730
Wold Wide Sires UK	SE	950
Pioneer Business Park	SE	922
Eastham Metals	SE	628
Recresco	SE	933
Pandr Computing	SE	960
Highway of Minor Road		
North Road	S	10
M53	S	1,000
Farmland		
-		
Local Wildlife Sites		
Rivacre Valley	S	773
Protected Species		
-		
Protected Habitats		
-		
Surface Water		
Manchester Shipping Canal	N	65
River Mercy	N	135
Groundwater (sensitivity)		
In accordance with the MAGIC website, the site is not within a Groundwater Protection Zone.		

## **6.0 POTENTIAL IMPACTS**

### **6.1 Impacts Associated with Odour**

In order to minimise the impacts of odour pollution, it is necessary to have an understanding of the surrounding community and how odour emissions could affect the people living nearby. The potential receptors are identified in Section 4 (above). The potential impacts of odour emissions are as follows:-

- Damage to local amenity – members of the public may choose not to visit areas that they perceive are affected by odour emissions;
- Damage to human health – some members of the public may be severely affected by odour emissions due to existing health conditions or enhanced sensitivity; and
- Nuisance – members of the public may perceive odour emissions as a nuisance.

## **7.0 ODOUR MANAGEMENT**

### **7.1 Odour Control Measures**

The H4 guidance requires that an OMP provides specific details regarding the proposed control measures that will be in place to control odour.

For clarity, the following guidance documents have been referred to inform the odour control methods that will be implemented at the facility to ensure that the site complies with the applicable BAT requirements:-

- H4 - Odour Management (2011); and
- SGN 5.06: Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste;

There will be specific control measures in place to minimise the risk of the emission of odours beyond the site boundary. These measures, which relate to the operation of the site during normal conditions, have been specified in relation to each potential odour source and are described below.

For details relating to the control of odour during abnormal conditions, see Section 8 of this OMP.

### **7.2 Acceptance of Potentially Odorous Waste**

Waste is brought to the site in covered vehicles. Vehicles will be required to arrive at the site in a clean state and all waste delivery vehicles will be covered. This requirement will be communicated to all potential waste carriers and producers in advance of a delivery or the commencement of a contract and any instances where this is not adhered to will be reported to carrier/producer with information reiterating the requirement. If vehicles continue to arrive which do not comply with this requirement, Dunton may refuse to accept waste from that carrier/producer.

The access roads will be inspected on a daily basis as part of routine site inspections and cleaning or sweeping of the access roads will be instigated to prevent track-out of any spilled materials.

All incoming loads will be inspected upon arrival at the waste reception area and if site operatives determine that a load is particularly odorous, they will alert the Site Manager or Site Supervisor who will inspect the load and may decide not to accept the waste onto the

site. The decision to accept or reject the waste will be at the discretion of the Site Manager or Supervisor only. This will be recorded in the waste acceptance records.

The site has limited storage capacity and the operator can easily monitor the volumes of waste that are present on site at all times and the site staff will therefore know if the site has sufficient capacity to accept any incoming waste while remaining in compliance with the conditions of the Environmental Permit. If the site does not have capacity the waste will not be accepted, this will include any scheduled plant outages for maintenance which may temporarily reduce the site's capacity.

Once it has been decided to accept a delivery, the driver will be directed to the reception and sorting area (see Drawing No DEL/IV.306.19/LAY/01) where the waste will be unloaded.

Odour monitoring procedures will be in place to confirm that the odour control measures are being carried out and are effective (see Section 8).

### **7.3 Storage of Potentially Odorous Waste**

Waste will be stored only within the designated storage areas.

Waste storage times will be kept to a minimum and waste will generally be treated within 5 days of delivery. Additionally, the site will prioritise any wastes which have a high odour potential to ensure that any risks to receptors are reduced/removed as a priority.

Storage areas will benefit from regular housekeeping to ensure that waste will not become lodged in corners and to ensure that these areas cannot become a potential source for odour.

Storage areas will benefit from being covered and will be fitted with an appropriate abatement system (i.e. negative pressure and a carbon filter with an attached HEPA filter).

Odour monitoring procedures will be in place to confirm that the odour control measures are being carried out and are effective.

### **7.4 Treatment of Potentially Odorous Waste**

If it becomes apparent that the site has accepted too much waste the Site Manager will assess whether the volume of waste can be processed in a timely manner (i.e. if the waste can be processed within 5 working days of receipt). If the waste cannot be processed, the Site Manager shall inspect the odour abatement equipment within the storage areas to determine if the odour abatement equipment can successfully manage the volume of waste. If the additional waste cannot be stored in accordance with permit limits, then the excess

volume of waste will be transferred off-site to an alternative facility as soon as practicable and the Environment Agency will be informed.

Under normal operating conditions, the site will operate a 'first in, first processed' system to ensure that the oldest waste within the storage area is processed first. This will help to minimise the waste retention times and odour production.

Treatment areas for hydrocarbon contaminated wastes will be provided with containment in the form of In-vessel Biopiles (i.e. plastic will be placed over the waste to prevent odour emissions), the biopiles will be fitted with a negative pressure system which will draw air to the sites carbon filter which will treat any odours generated by the treatment process.

Treatment of asbestos waste will take place within a specially designed picking station which will be fitted with negative pressure system which will draw air to a filter system and may also connect to the sites carbon filter which will treat any odours generated by the treatment process.

Soil washing will be undertaken within a specially designed facility and the very nature of the treatment process, i.e. the use of water as the treatment medium, will ensure minimal odour release.

Odour monitoring procedures will be in place to confirm that the odour control measures are being carried out and are effective.

## **7.5 Poor Site Cleanliness**

If the site is kept to a poor standard of cleanliness, then the potential for odour generation will increase. Therefore, management systems are in place to ensure that the site is maintained to an extremely high standard of cleanliness. The site has an Environmental Management System (EMS) which contains the maintenance and cleaning schedules and records.

In summary, the following measures will be in place:-

- **Routine Site Inspection Programme** – all areas of the site, including the waste reception, storage and treatment areas and items of plant and machinery will be inspected regularly and routinely, and any necessary cleaning of these areas will be undertaken in a timely manner. All inspections will be recorded within the site's EMS and will be undertaken by appropriately trained staff.

- **Routine Site Cleaning Programme** – all areas of the site, including the waste reception, storage and treatment areas and items of plant and machinery will be cleaned and disinfected regularly and routinely, to ensure that there is no build-up of putrescible wastes or residues. All cleaning will be recorded within the site's EMS and will be undertaken by appropriately trained staff – cleaning will be undertaken on an as needed basis or at a minimum of one per week.
- **Vigilance and Reporting** – all site operatives will be vigilant at all times and will inform a senior member of staff as soon as practicable if they notice that the site is unclean or that high levels of odour being generated at the site.

Odour monitoring procedures will be in place to confirm that the odour control measures are being carried out and are effective (see Section 7).

#### 7.6 Future Considerations

It is considered that the above measures should be sufficient to minimise the production of odour on this site. However, this OMP will be reviewed annually and the control measures and procedures in place may be amended if required.

## **8.0 MONITORING**

### **8.1 Monitoring**

Monitoring will be undertaken at the site in order to assess the effectiveness of the control measures described above. This will ensure that should there be any odour emissions from the site, the operator will be aware and will implement the necessary remedial action.

The monitoring will provide an ongoing record of any odour events and this record can then be referred to if there are any odour complaints to establish whether the monitoring is effective in identifying odour incidents. This will also provide a more integrated and efficient approach to handling odour issues, for instance if an odour issue is identified through routine monitoring, the cause of this can be investigated, recorded and addressed immediately before any complaints are received. This will enable the operator to anticipate and address the concerns of complainants more proactively.

### **8.2 General Monitoring**

All site personnel will be vigilant and will report any odour problems to the Site Manager or Site Supervisor.

The Site Manager will record any reported odour problems in the relevant section of the site's EMS.

### **8.3 Off-site Odour Monitoring**

A subjective sniff testing exercise will be undertaken each day that the site is operational – at different times each day (time of day will be recorded) and when different activities are occurring to ensure a through set of background data. Sniff testing will also be undertaken should there be any complaints relating to odour at the site.

The assessor will be a member of site personnel who is trained in this procedure. The assessor will be a member of staff who is based mainly in the site office as they will be less exposed to any site odour and so are less likely to be desensitised.

To ensure that the assessor is not suffering from odour fatigue, they will not enter the waste buildings on the day of the assessment until they have completed the monitoring exercise. The assessor must also not be suffering from a cold, sinusitis, or a sore throat as these may affect their sense of smell. In addition, the assessor should be a non-smoker, and will avoid food and drink (except water) for at least half an hour before undertaking the assessment. These measures will ensure that the results of the assessment are robust and reliable.



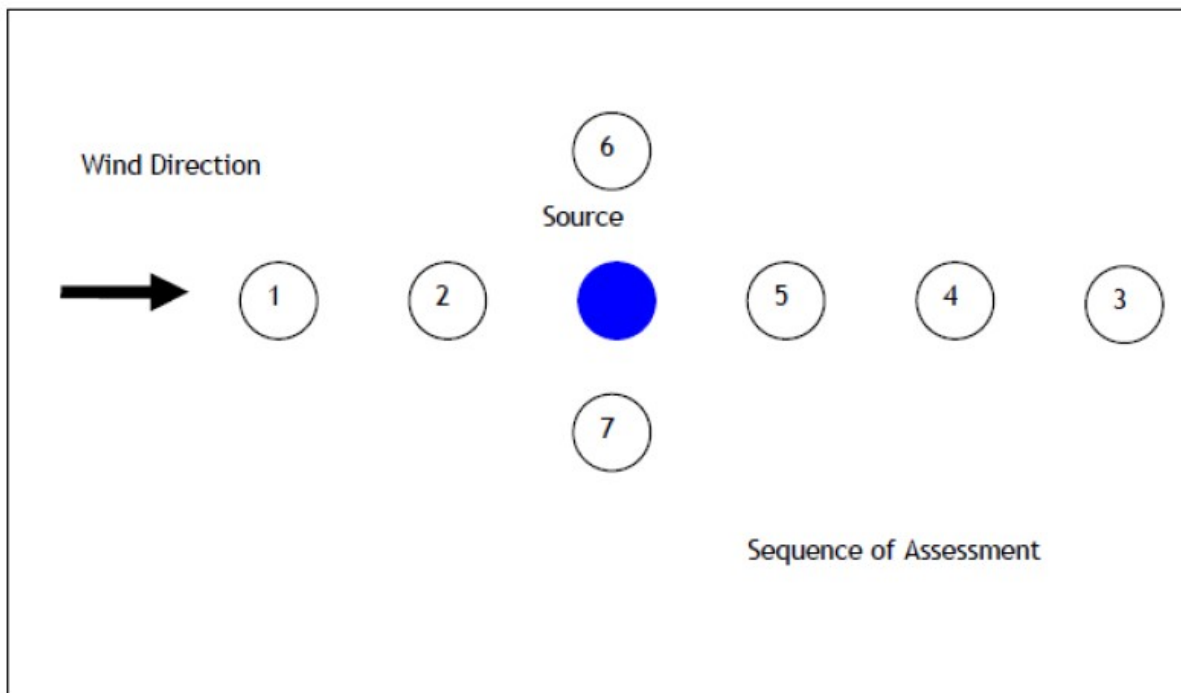
The assessor will use their sense of smell to detect odours near the site and identify their sources.

The meteorological conditions during the assessment will be recorded and any relevant information relating to site operations will be noted. A note will also be made if there are any other noticeable sources of odour in the vicinity.

The exact locations for monitoring will depend on the meteorological conditions at the time of the exercise, but in general terms the following sequence of assessment (Figure 1) will be followed, with areas of weaker strength inspected prior to stronger. The 'source' will be the permitted area. Additionally, specific sniff testing will be undertaken at the monitoring locations shown in Appendix D of this management plan, this is to provide additional protection to sensitive receptors.

If, after two full months of monitoring, i.e. the site has undertaken 40 rounds of odour monitoring, the results of the odour monitoring show that there are no issues on site with regards to odour, the site will cease daily odour monitoring, unless a complaint is made which is substantiated by the Environment Agency.

**Figure 1: Odour monitoring locations**



## **9.0 ABNORMAL EVENTS AND CONTINGENCY PLANS**

### **9.1 Possible Abnormal Events**

The possible events considered to have the potential to result in an increased risk of off-site odour impact are listed in Table 3. The main reason that the risk of odour is increased in these instances will be because the abnormal events may cause the temporary disruption of normal site activities, which can result in a back log of odorous waste pending processing.

It is difficult to minimise the risk of abnormal events; however, the operator has in place contingency measures which allow them to mitigate and respond to the implications of the abnormal event.

The events and response measures to be implemented are presented in Table 3. The contingency arrangements explained in Section 9.2 describe the actions that the operator may take to ensure that biodegradable waste materials do not remain on site long enough to cause unacceptable odorous emissions.

**Table 3: Abnormal Events, impact and response measures**

Hazard	Location	Potential Effect	Receptor	Mitigation Measures to Prevent Occurrence	Response Measures if it Occurs
1. Severely odorous wastes received	Waste reception area.	Increase in emissions from reception area while severely odorous materials are present.	Occupiers of domestic dwellings listed in Table 2.  Industrial and commercial premises listed in Table 2.	Strict waste acceptance procedures (see section 7).  The site has limited storage capacity and is restricted to a maximum throughput of 830 tonnes per day.	If deemed too odorous, the waste will not be accepted at the site.  Should a load that contains severely odorous waste to undetected until it is loaded, the waste will either be removed from the site or priority will be given to processing this waste first.  If severely odorous waste is repeatedly received from the same producer, then they will be informed so that they can investigate potential prevention measures.
2. Plant breakdown	Waste Treatment Area	Increase in emissions if materials become backlogged and degradation occurs.	Occupiers of domestic dwellings listed in Table 2.  Industrial and commercial premises listed in Table 2.	The site will operate a planned preventative maintenance programme for all plant and equipment on site and will have back-ups of those items that could potentially lead to odour being produced, i.e. pumps etc.	Receipt of waste will cease if necessary until machinery is functioning again.  Water within the soil treatment facility will either be tankered off site or discharged to sewer under the sites discharge consent.  Any necessary repairs and maintenance work will be carried out in a timely manner.  If the plant is down for a period of over 5 days the waste will be transferred off-site to an appropriately permitted facility.
3. Power failure	Waste treatment and storage areas.	Increase in emissions if materials become backlogged and degradation occurs.	Occupiers of domestic dwellings listed in Table 2.  Industrial and	The site will operate a planned preventative maintenance programme which will include power supply infrastructure.	A back-up generator may be installed at the facility.  If the waste delivery is from a 3 <sup>rd</sup> party, the supplier will be notified as soon as possible.  Instigate immediate investigation and remedial action

			commercial premises listed in Table 2.		as required.  If the failure is for an extended period, the site will cease or minimise the acceptance of waste, as necessary.  If the plant is down for a period of over 5 days the waste will be transferred off-site to an appropriately permitted facility.
4. Restricted staff availability	All operational areas.	Increase in emissions if materials become backlogged and degradation occurs	Occupiers of domestic dwellings listed in Table 2.  Industrial and commercial premises listed in Table 2.	The Site Manager will ensure that they have an appropriately trained staff member that they can delegate their role to should they be available.  The site management staff will have a staff resources plan that ensures that sufficient numbers of staff are available at all times to undertake each role.	If required additional staff may be hired on a temporary basis to cover the absent staff.  If necessary, wastes will be transferred off-site to an appropriately permitted facility to reduce or remove waste volumes to a manageable level.  If it is deemed that there are insufficient qualified staff to safely and properly run the plant, activities will be temporarily halted.
5. Extreme winds and gales.	All operational areas	Increased risk of emissions off-site, depending on the prevailing wind direction.	Occupiers of domestic dwellings listed in Table 2.  Industrial and commercial premises listed in Table 2.	Activities will be provided with sufficient infrastructure with regards to storage bays and treatment techniques.	Due to the infrastructure in place i.e. the sheeting of waste bays and the enclosed nature of the biopiles the soil washing facility and asbestos picking, it is unlikely that gales or wind will cause an increase in odour emissions.
6. Extreme cold/snowfall	All operational areas	Difficult vehicle access could result in a backlog of material pending processing.	Occupiers of domestic dwellings listed in Table 2.	Weather conditions will be monitored.	If possible snow will be cleared to enable normal access into and within the area.

		Disruption to water supply.	Industrial and commercial premises listed in Table 2.		
7. Fire.	All operational areas	Risk of increased impact from any area of the site affected by fire (during and after).	Occupiers of domestic dwellings listed in Table 2.  Industrial and commercial premises listed in Table 2.	Fire risk has been assessed as part of the Environmental Risk Assessment.	Should a fire occur within the site, operations will be temporarily suspended and no further waste will be accepted on site.  If necessary, wastes will be transferred off-site to an appropriately permitted facility.
8. Flood	All operational areas	Risk of increased impact from any area of the site affected by flood (during and after)	Occupiers of domestic dwellings listed in Table 2.  Industrial and commercial premises listed in Table 2.	The site is not located within an area at risk of flooding.	Should flooding occur on site, operations will be temporarily suspended and no further waste will be accepted on site.  If necessary, wastes will be transferred off-site to an appropriately permitted facility.
9. Unexpected large loads of waste received.	All operational areas	Could result in a backlog of material pending processing.	Occupiers of domestic dwellings listed in Table 2.  Industrial and commercial premises listed in Table 2.	Waste pre-acceptance procedures will ensure that the site staff will be aware of the deliveries in advance.  The site has limited storage capacity and is restricted to a maximum throughput of 475 tonnes per day.	The site manager will assess the volumes of waste present on site on a daily basis.  The Operator will not accept waste on the site if there is not sufficient storage and treatment capacity to handle the waste without increasing the risk of odour emissions.
10. Poor Housekeeping	All operational areas	Increased risk of emissions.	Occupiers of domestic dwellings listed in Table 2.	The site manager will undertake inspections at the end of each working day to ensure that the	If poor housekeeping occurs, the Site Manager will delegate members of staff to address the issues identified and may decide to cease accepting waste until such times as any identified issues have been

			Industrial and commercial premises listed in Table 2.	site is clean, there is no building up on machinery and stockpiles are covered appropriately with the abatement equipment connected and working correctly.	mitigated.  If poor housekeeping continues to occur on site, then all staff will be retrained and a daily task list may be instigated which a nominated member of staff will be required to sign off which will be checked by the site manager at the end of each day.
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If any abnormal events do occur, they will be recorded in the appropriate section of the EMS along with any actions taken in response. If deemed necessary, operational procedures may be reviewed and amended following the event.

## 9.2 Assessing Capacity

In the event of an abnormal event, the operator will make every reasonable effort to ensure that the site is operated within the conditions of the Environmental Permit and that there is no increased risk of odour emissions.

If it is apparent that the abnormal event may result in the increased risk of odour emissions then the Site Manager will make an assessment of the available storage and treatment capacity and assess how this is affected by the event.

In order to do this, the following steps will be taken:-

- Make an assessment of the volumes of potentially odorous wastes present on site as soon as it is practicable to do so. The operator has limited storage capacity on site and can easily monitor the available capacity of the site at any given time;
- Make an assessment as to whether it is possible to process the wastes that are already on site within the specified limit of 5 days from the receipt of the waste. In order to determine this, the operator will take into account the conditions of the Environmental Permit, the normal waste physical treatment capacity, the capacity of plant and the potential impact on these capacities that the abnormal event will cause; and
- If it is apparent that the site does not have the capacity to process the waste within the specified time limit, then the Site Manager will decide to transfer the waste off-site.

By undertaking the above assessment as soon as possible after the occurrence of the abnormal event this will prevent the build-up of potentially odorous wastes on the site which is preferable to attempting to process all the waste as quickly as possible and failing to do so within the specified time limit.

Dunton will produce a list of alternative destinations for waste which they cannot accommodate due to potential odour issues. This will be kept in the site office and all site staff will be aware of its location.

## **10.0 ODOUR COMPLAINTS MANAGEMENT**

### **10.1 Purpose of Complaints Procedure**

The Environment Agency H4 guidance details that an OMP should demonstrate how the operator will respond to complaints. Any complaints should be investigated promptly and appropriate remedial action should be taken. The complainant and anyone else likely to be affected should be informed of any action taken in response to the complaint.

A procedure has been developed (see Table 4 below) to ensure that complaints will be handled by Dunton appropriately and consistently in accordance with the requirements of H4 and to reassure the Environment Agency and the public that any of their concerns will be acknowledged and acted upon where appropriate. The procedure will be reviewed on an annual basis or in the event of any significant odour issues

### **10.2 Complaints Reporting Route**

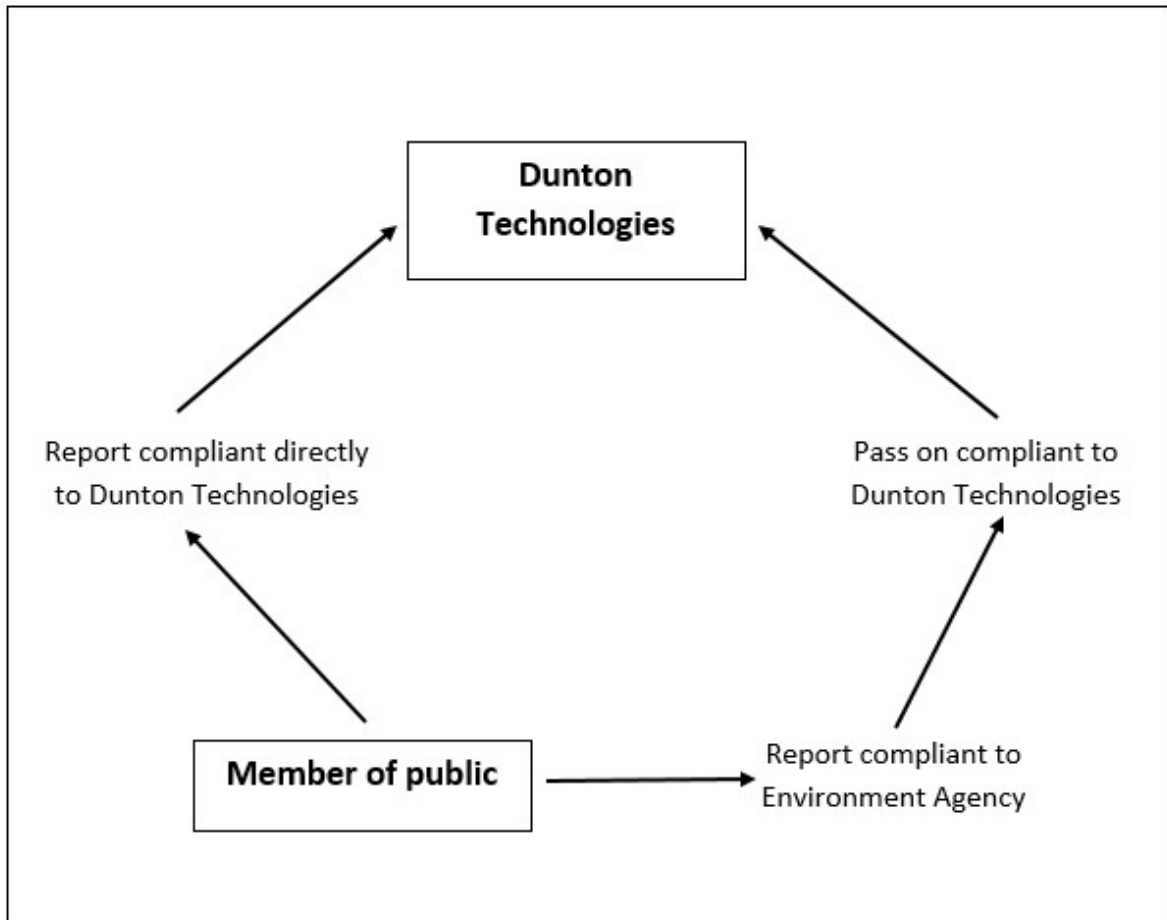
To ensure that members of the public are easily able to report any complaints relating to odour emissions from the site, there will be a display board at the site entrance which details the site name, the permit number, the Environment Agency's contact details and Dunton's contact details. By providing contact details for the EA as well as the operator, this ensures that the member of public can report their complaint and be confident that it will be received by the appropriate party even if they do not wish to discuss their complaint directly with the operator. The reporting route is illustrated in Figure 2 (below).

### **10.3 Complaints Records**

Auditable records will be kept of any complaints made and the investigations undertaken. This will provide an ongoing record of the causes of odour incidents which will enable Dunton to identify any patterns which would prompt a review in odour management procedures and control measures.



**Figure 2: Odour Complaint Reporting Routes**



**Table 4: Odour Complaints Procedure**

Action	Person responsible for ensuring action is carried out	Timescale for Action Completion
1. The Site Manager will be notified of the complaint and will make the appropriate managerial staff and site operatives aware of the complaint.  The compliant shall be formally recorded using the Complaint Report sheet contained within the sites EMS (Appendix B of this OMP).	Site Manager	Within one working day of receipt of the complaint.
2. The complaint shall be investigated by: <ul style="list-style-type: none"> <li>a) Checking the odour monitoring records to see whether the complaint responds to the monitoring records.</li> <li>b) Checking the Site Diary and Waste Acceptance Records to see if any particularly odorous waste was accepted.</li> <li>c) Checking the Site Diary to see whether the</li> </ul>	Site Manager	Within one working day of receipt of the complaint.

<p>complaint corresponds to any operational issues at the site, such as damage to roller shutter doors or damage to other odour management infrastructure.</p> <p>If the cause of the complaint is established it will be recorded within the Complaint Record Sheet. If no particular cause is identified then this will also be recorded.</p>		
<p>3. If a number of complaints are received about a particular incident, then it might be necessary to increase the frequency of odour monitoring.</p>	Site Manager	Within one working day of receipt of the complaint.
<p>4. The Site Manager will instigate any necessary reviews of procedures and will implement any required changes. Any maintenance to odour management infrastructure will be undertaken as soon as possible.</p>	Site Manager	Within seven working days of receipt of the complaint.
<p>5. If appropriate, the complainant and the Environment Agency will be informed of any corrective actions taken.</p>	Site Manager	Within seven working days of receipt of the complaint.
<p>6. A follow up audit on the corrective actions shall be undertaken to ensure the preventative procedure was effective and to determine if any additional actions are required.</p>	Site Manager	Within two weeks of receipt of the complaint.
<p>7. Once the follow up audit has been completed, the Site Manager will ensure that the complaint and any action taken and the effectiveness of that action are recorded in the EMS.</p> <p>This record shall also note any amendments to procedures, both environmental and health and safety, which may be required following the investigation. The record shall be kept in the site office at all times or if it is an electronic record, it will be accessible at the site.</p>	Site Manager	Within two weeks of receipt of the complaint.

## 11.0 COMMUNITY LIAISON ENGAGEMENT

### 11.1 Liaison and Engagement

Dunton will establish clearly defined and accessible communication channels for local residents to report odour issues. These include:-

- Contact details (including telephone number and emergency 'out of hours' telephone number), displayed on the main site notice board positioned at entrance to the site; and
- Website giving relevant contact details, including email, telephone and postal address.

It is not considered necessary to undertake formal local liaison meetings initially, as the measures in place are considered sufficient to minimise the risk of emissions. Should it become apparent that the measures are ineffective or odour becomes a problem at the site, it may be decided to undertake a formal meeting with residents to discuss concerns and to open a dialogue.

Dunton is committed to ensuring that any issues identified by the local community are promptly acted upon to ensure ongoing co-operation between the two parties.

## **12.0 Document Review**

### **12.1 Document Review Procedure**

This Odour Management Plan (OMP) will be formally reviewed by Dunton on an annual basis or immediately upon a substantiated odour complaint. This will ensure that the controls in place continue to be effective and the operator will maintain the use of Best Available Techniques (BAT) at the facility.

The OMP will also be reviewed following any changes in site operations that may have an influence on the risk of odour emissions.

**Appendix A – Permit Boundary and Site Layout  
(Under Separate Cover)**

## **Appendix B – Complaints Procedure**

# Ellesmere Port Waste Treatment Facility

## Complaints Procedure

In an attempt to simplify and improve our Company complaints procedure and to ensure that matters are dealt with correctly I would be obliged if you would with immediate effect follow the new process detailed below:

1. Complaint received by email
  - a. Please forward immediately to Dunton Technologies Limited.
2. Complaint received by phone
  - a. Please forward immediately to Dunton Technologies Limited with the following information:
    - i. Name of Company/Person making complaint
    - ii. Contact phone number of Company/Person making complaint
    - iii. Details of complaint (all relevant details)
    - iv. Site/Location details
    - v. Full postal address of Person making complaint if Non account customer
    - vi. Email address of Person making complaint

Please under no circumstances and without exception attempt to deal with the matter independently.

We take all complaints received from customers, members of the public, etc, very seriously, irrespective of how minor they may at first appear and it is vitally important for the company to deal with any such matters expediently and efficiently as possible.

Should you have any further questions with regard this matter then please do not hesitate to contact myself.

**Dunton Technologies Limited**

## Complaints Procedure Part 2

In the event of a complaint being received from a member of the public or from the relevant Authority, the actions in the table below will be undertaken.

Actions	In the event of a complaint being received
Inform Site manager	●
Check boundary and receptors for Odour	●
Review activities occurring on site including date, time, what loads have been delivered, wind direction and general site conditions	●
Inform Environment Agency or Local Authority	●
Trace source of the odour and remediate	●
Review the current odour management techniques to determine if still appropriate	●
Determine if additional measures need to be implemented (including reviewing site layout and storage arrangements)	●
Report back to EA, LA or Complainant regarding what actions have been undertaken	●

● **If deemed necessary**

● **Compulsory Actions**



## **Appendix C – List of Permitted Wastes**

**Hazardous Waste – Asbestos Picking**

<b>EWC Code</b>	<b>Description</b>
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
<b>17 05</b>	<b>Soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 03*	Soil and stones containing hazardous substances
<b>17 06</b>	<b>Insulation materials and asbestos-containing construction materials</b>
17 06 05*	Construction materials containing asbestos

**Hazardous Waste – Soil Washing and Bioremediation**

<b>EWC Code</b>	<b>Description</b>
<b>01</b>	<b>WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS</b>
<b>01 05</b>	<b>Drilling muds and other drilling wastes</b>
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
<b>05</b>	<b>WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL</b>
<b>05 01</b>	<b>wastes from petroleum refining</b>
05 01 03*	tank bottom sludges
05 01 06*	oily sludges from maintenance operations of the plant or equipment
05 01 09*	sludges from on-site effluent treatment containing hazardous substances
<b>06</b>	<b>WASTES FROM INORGANIC CHEMICAL PROCESSES</b>
<b>06 05</b>	<b>sludges from on-site effluent treatment</b>
06 05 02*	sludges from on-site effluent treatment containing hazardous substances
<b>07</b>	<b>WASTES FROM ORGANIC CHEMICAL PROCESSES</b>
<b>07 01</b>	<b>wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals</b>
07 01 11*	sludges from on-site effluent treatment containing hazardous substances
<b>07 02</b>	<b>wastes from the MFSU of plastics, synthetic rubber and man-made fibres</b>
07 02 11*	sludges from on-site effluent treatment containing hazardous substances
<b>07 03</b>	<b>wastes from the MFSU of organic dyes and pigments (except 06 11)</b>
07 03 11*	sludges from on-site effluent treatment containing hazardous substances
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 01</b>	<b>wastes from power stations and other combustion plants (except 19)</b>
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing hazardous substances
10 01 16*	fly ash from co-incineration containing hazardous substances
10 01 18*	wastes from gas cleaning containing hazardous substances
10 01 20*	sludges from on-site effluent treatment containing hazardous substances
<b>10 09</b>	<b>wastes from casting of ferrous pieces</b>

10 09 05*	casting cores and moulds which have not undergone pouring containing hazardous substances
10 09 07*	casting cores and moulds which have undergone pouring containing hazardous substances
10 09 09*	flue-gas dust containing hazardous substances
10 09 11*	other particulates containing hazardous substances
10 09 13*	waste binders containing hazardous substances
<b>10 02</b>	<b>wastes from the iron and steel industry</b>
10 02 07*	solid wastes from gas treatment containing hazardous substances
10 02 13*	sludges and filter cakes from gas treatment containing hazardous substances
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 12*	solid wastes from gas treatment containing hazardous substances
<b>11</b>	<b>WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDROMETALLURGY</b>
<b>11 01</b>	<b>wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)</b>
11 01 09*	sludges and filter cakes containing hazardous substances
<b>12</b>	<b>WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS</b>
<b>12 01</b>	<b>wastes from shaping and physical and mechanical surface treatment of metals and plastics</b>
12 01 14*	machining sludges containing hazardous substances
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil
<b>13</b>	<b>OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)</b>
<b>13 05</b>	<b>oil/water separator contents</b>
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
<b>16</b>	<b>WASTES NOT OTHERWISE SPECIFIED IN THE LIST</b>
<b>16 07</b>	<b>wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)</b>
16 07 08*	wastes containing oil
16 07 09*	wastes containing other hazardous substances
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
<b>17 03</b>	<b>bituminous mixtures, coal tar and tarred products</b>
17 03 01*	bituminous mixtures containing coal tar
17 03 03*	coal tar and tarred products
<b>17 05</b>	<b>Soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 03*	Soil and stones containing hazardous substances
17 05 05*	dredging spoil containing hazardous substances
17 05 07*	track ballast containing hazardous substances
<b>17 09</b>	<b>other construction and demolition wastes</b>
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
<b>19</b>	<b>WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE</b>

<b>WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE</b>	
<b>19 01</b>	<b>wastes from incineration or pyrolysis of waste</b>
19 01 11*	bottom ash and slag containing hazardous substances
19 01 13*	fly ash containing hazardous substances
19 01 15*	boiler dust containing hazardous substances
19 01 17*	pyrolysis wastes containing hazardous substances
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 05*	sludges from physico/chemical treatment containing hazardous substances
19 02 11*	other wastes containing hazardous substances
<b>19 03</b>	<b>stabilised/solidified wastes</b>
19 03 04*	wastes marked as hazardous, partly stabilised other than 19 03 08
19 03 06*	wastes marked as hazardous, solidified
<b>19 07</b>	
<b>19 07 02*</b>	landfill leachate containing hazardous substances
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 11*	sludges containing hazardous substances from biological treatment of industrial waste water
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
<b>19 11</b>	
19 11 05*	sludges from on-site effluent treatment containing hazardous substances
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
<b>19 13</b>	<b>wastes from soil and groundwater remediation</b>
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 05*	sludges from groundwater remediation containing hazardous substances

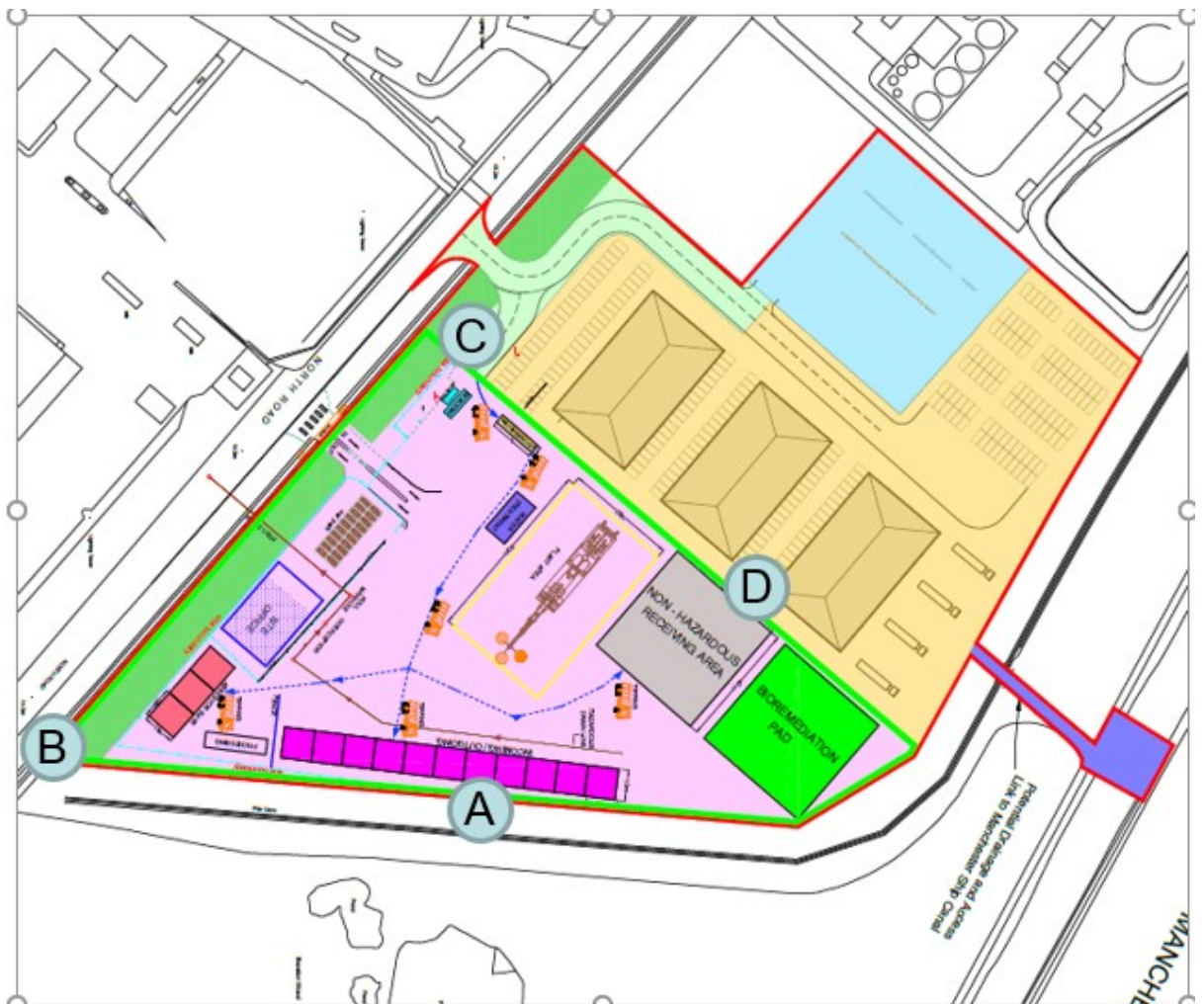
#### Non-Hazardous Waste – Soil Washing

<b>EWC Code</b>	<b>Description</b>
<b>01</b>	<b>WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS</b>
<b>01 05</b>	<b>Drilling muds and other drilling wastes</b>
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
<b>06</b>	<b>WASTES FROM INORGANIC CHEMICAL PROCESSES</b>
<b>06 05</b>	<b>sludges from on-site effluent treatment</b>
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
<b>10</b>	<b>WASTES FROM THERMAL PROCESSES</b>
<b>10 01</b>	<b>wastes from power stations and other combustion plants (except 19)</b>
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in

	10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
<b>10 02</b>	<b>wastes from the iron and steel industry</b>
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07*
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13*
10 02 15	other sludges and filter cakes
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12*
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
<b>17 03</b>	<b>bituminous mixtures, coal tar and tarred products</b>
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
<b>17 05</b>	<b>Soil (including excavated soil from contaminated sites), stones and dredging spoil</b>
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
<b>17 09</b>	<b>other construction and demolition wastes</b>
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
<b>19</b>	<b>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</b>
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
<b>19 03</b>	<b>stabilised/solidified wastes</b>
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
<b>19 07</b>	<b>landfill leachate</b>
19 07 03	landfill leachate other than those mentioned in 19 07 02
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 09	
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
<b>19 13</b>	<b>wastes from soil and groundwater remediation</b>
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
<b>20</b>	<b>MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS</b>

<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 02	soil and stones
<b>20 03</b>	<b>other municipal wastes</b>
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning

## Appendix D – Odour Monitoring Locations



## **Appendix E – Daily Log**



# **Ellesmere Port Waste Treatment Facility, Daily Conditions Log**

**Date:**

**Name:**

**Observations:**

**Actions:**

**Signature:**











