



**ODOUR MANAGEMENT PLAN**

**SECURE WASTE AND RECYCLING FACILITY  
CHIMNEY ROAD  
TIPTON  
WEST MIDLANDS  
DY4 7BY**

**Document Reference: BF5094/11.R0  
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**Project Quality Assurance  
Information Sheet**

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SECURE WASTE & RECYCLING FACILITY, CHIMNEY ROAD, TIPTON, WEST MIDLANDS**

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**CONTENTS**

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Scope & Background .....	1
1.2	Site Setting .....	1
1.3	Site Operations .....	2
1.4	Sensitive Receptors .....	7
1.5	Meteorological Conditions.....	8
<b>2.0</b>	<b>ODOUR SOURCE INVENTORY .....</b>	<b>10</b>
2.1	Odour Sources.....	10
2.2	Normal Activities Involving Odour Sources.....	11
2.3	Maintenance Activities Involving Odour Sources.....	11
2.4	Accidents / Incidents Involving Odour Sources .....	12
2.5	Location of Potentially Odorous On-Site Activities.....	12
2.6	Potentially Odorous Off-Site Sources.....	12
<b>3.0</b>	<b>ODOUR CONTROL MEASURES .....</b>	<b>16</b>
3.1	Source-Pathway-Receptor Model .....	16
3.2	Process Controls.....	16
3.3	Physical Controls .....	18
3.4	Management Controls.....	19
3.5	Odour Control During Abnormal Events and Maintenance Periods .....	21
<b>4.0</b>	<b>ODOUR MONITORING AND RECORDING.....</b>	<b>23</b>
4.1	Odour Monitoring .....	23
4.2	Odour Diaries and Community Surveys .....	25
<b>5.0</b>	<b>COMPLAINTS HANDLING .....</b>	<b>26</b>
5.1	Complaints Process .....	26
5.2	Means of Contact.....	26
5.3	Complaint Recording .....	27
5.4	Complaint Screening.....	27
5.5	Complaint Investigation.....	27
<b>6.0</b>	<b>ACTIONS, CONTINGENCIES &amp; RESPONSIBILITIES DURING PROBLEM EVENTS.....</b>	<b>29</b>
6.1	Default Procedures .....	29
6.2	Emergency Procedure .....	29
6.3	Event Reporting .....	29
6.4	Problem Resolution.....	29
<b>7.0</b>	<b>REPORT CLOSURE .....</b>	<b>31</b>

### LIST OF DRAWINGS

BF5094/12/01	Site Boundary Plan
BF5094/12/02	Site Operational Layout
BF5094/12/03	Proposed Drainage Plan
BF5094/12/04	Sensitive Receptor Plan
BF5094/12/05	Fire Infrastructure Plan

### LIST OF APPENDICES

Appendix 1	Operation and Maintenance Daily Check Sheet
Appendix 2	Odour Assessment Report Form
Appendix 3	Odour Complaint Form

### LIST OF TABLES

Table 1:	Waste processing plant within Main Processing Building .....	4
Table 2:	Waste processing plant within Alcohol and Cosmetics Building .....	5
Table 3:	Identified Potentially Odour Sensitive Receptors within 1km of the Facility ....	8
Table 4:	Odour generation potential of wastes handled at the facility .....	10
Table 5:	Identified Potential Odour Sources .....	13
Table 6:	Odour Monitoring Parameters, Techniques and Frequencies .....	24

### LIST OF FIGURES

Figure 1:	Wind Rose for Coleshill Recording Station between (5 year average) .....	9
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## 1.0 INTRODUCTION

### 1.1 Scope & Background

1.1.1 This Odour Management Plan (OMP) has been prepared by Sirius Environmental Limited (Sirius) on behalf of Biffa Waste Services Limited ('Biffa') in support of an application to vary the waste activities currently regulated at the Waste Transfer Station at Chimney Rd, Tipton, West Midlands, DY4 7BY under Environmental Permit EPR/FB3809KS.

1.1.2 This Odour Management Plan has been prepared in accordance with guidance on best practice, and in particular the following specific regulations and guidance (where applicable) contained in:

- Environmental Permitting (England and Wales) Regulations 2016.
- Environmental Permitting Core Guidance (DEFRA, Updated March 2020).
- Environment Agency Document H4 – Odour Management.
- BAT Conclusions for Waste Treatment
- Non-hazardous and inert waste: appropriate measures for permitted facilities
- Chemical waste: appropriate measures for permitted facilities
- Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities

1.1.3 This Odour Management Plan is a live document and as such will be subject to regular review and revision. In all circumstances, revisions will be submitted to the Environment Agency (EA) for review and approval.

1.1.4 The objectives of this Odour Management Plan are as follows:

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

1.1.1 The following aspects have been considered during the preparation of this Odour Management Plan:

- The activity which produced the odour and the point(s) of odour release (both intentional and unintentional);
- Possible process or control failures or abnormal situations which could lead to an increased level of exposure;
- The potential outcome of each failure scenario in respect of the likely odour impact on local sensitive receptors; and
- The actions which are to be taken to mitigate the effect of the odour release, and details of the persons responsible for the actions on the Regulated Facility.

### 1.2 Site Setting

1.2.1 The facility is located off Chimney Road, Bagnall Street Industrial Estate, approximately 2.5km east of Tipton town centre – as shown in **Drawing No. BF5094/12/01**. The National Grid Reference (NGR) for the site is SO 97944 92922.

- 1.2.2 The site currently comprises a waste transfer and recycling building in the western area, storage bays in the east, with a site office and car park in the north. The site is surrounded by corrugated fencing. Access to the site is gained via a gated entrance to the East onto chimney road.
- 1.2.3 Biffa are now seeking to redevelop this site into a Secure Waste and Recycling Facility (SWaRF). Principally, this is for the purposes of destroying counterfeit, 'grey market' or confiscated goods, in addition to returned online orders to prevent them reaching the market. Whilst wastes will be treated onsite, this is for the purposes of an 'initial destruction' with almost all subsequent wastes going on for further processing and recovery. As a result, a range of non-hazardous and hazardous waste streams which will be treated on site pending transfer to a suitably permitted facility.
- 1.2.4 The site is currently covered entirely by impermeable pavement with a sealed drainage system.
- 1.2.5 As part of the redevelopment of the site, the existing external storage bays located in the eastern section of the site are to be removed and a new waste building constructed in its place, to facilitate alcohol and cosmetics treatment and storage activities. The impermeable surfaces and drainage system are to be redesigned, with a new surface installed.
- 1.2.6 Due to the sensitive nature of the wastes processed, the site will also undergo extensive security upgrades. This includes enhanced fencing and lighting, a double gated and guarded entrance, a comprehensive security and CCTV system, as well as 'airport style' security with checks for visitors and employees. Viewing of the CCTV system's coverage will be made available for visitors via a number of screens in the site office.
- 1.2.7 The proposed site will consist of two buildings equipped with internal processing areas, waste reception areas, palletised storage areas, designated loading/unloading areas, as well as separate site offices and welfare facilities. External areas will be utilised for the storage of tanked liquids, containers of waste treatment outputs and curtained side trailers for the storage of baled, palletised or containerised (e.g. open-topped IBCs) wastes.
- 1.2.8 The main processing building will be split into various sections to accommodate the treatment process lines, with an area dedicated to the palletised storage of incoming waste streams, and with skips, containers, or stand trailers used externally for processed waste outputs. There will be no structural separation between the various processing lines.
- 1.2.9 A newly constructed building on the east of the site will be used for the storage and treatment of hazardous and non-hazardous alcohols and cosmetics. This includes an external bunded tank farm for processed liquids, with processed outputs also being stored externally within skips, containers or stand trailers.

### **1.3 Site Activities**

- 1.3.1 Biffa are seeking to redevelop the site into a Secure Waste and Recycling Facility (SWaRF). Principally, this is for the purposes of destroying counterfeit, 'grey market' or confiscated goods, in addition to returned online orders to prevent them reaching the market. Whilst wastes will be treated onsite, this is for the purposes of an 'initial destruction' with almost all subsequent wastes going on for further processing and recovery.

- 1.3.2 Whilst wastes are treated onsite, the operator's main intention is to destroy products to prevent them from reaching the market and consumers. Processed fractions will be transferred offsite to other suitable facilities for advanced processing and recovery (e.g. 'black matter' leftover from Lithium-Ion cells).
- 1.3.3 As a result, a range of non-hazardous and hazardous waste streams which will be treated on site pending transfer to a suitably permitted facility.
- 1.3.4 The proposed operation changes require an application to vary the Environmental Permit, include:-
- Extension of the waste processed to include hazardous wastes and the inclusion of new hazardous waste treatment activities to the permit
  - Variation to the existing non-hazardous waste operations and schedule of wastes
- 1.3.5 Activities at Tipton SWaRF will include the treatment via manual sorting/de-packaging, shredding, milling, bulking, chemical treatment, blending, compaction and baling of a range of non-hazardous and hazardous wastes.
- 1.3.6 The key types of treatment activities that will be carried out at the SWaRF include:-
- Depackaging and blending of Hazardous Alcohol and Cosmetics (e.g. Perfume and Aftershave)\*
  - Depackaging and blending of Non-Hazardous Alcohol and other non-alcoholic liquids (Including beverages).
  - Cigarettes / Tobacco shredding\*
  - Vapes and other WEEE destruction\*
  - Manual sorting and separation of non-hazardous products including food and destruction of packaging\*
  - Shredding and baling of Textiles\*
  - Nitrous oxide cannister degassing and chemical treatment

#### Waste Storage and Treatment

- 1.3.7 All wastes will be stored and treated in accordance with Biffa's Standard Operating Procedures.
- 1.3.8 Following the successful completion of the waste-acceptance checks waste will be directed to palletised storage within the main processing building or alcohol and cosmetics building, depending on its type. Nitrous Oxide cannisters will be stored separately from other wastes within the main processing building.
- 1.3.9 No more than c. 500 tonnes of waste will be stored at the site at any one time. Wastes will be stored no longer than 3 months.
- 1.3.10 The operational layout of the facility is shown in **Drawing No BF5094/12/02**.
- 1.3.11 Olfactory assessments will be undertaken as part of the Daily Site Inspections. If excessive odours are identified as being generated, then appropriate source investigation and remediation arrangements will be made.

#### Main Processing Building

- 1.3.12 The main processing building will be split into separate processes to accommodate the storage and treatment of various hazardous and non-hazardous wastes. A description of each process line due to be housed within the main processing building is provided below:

- **Hazardous Vapes and WEEE destruction** – milling and separation of vape (and suitable WEEE) contents and components, including evaporation, extraction and storage of electrolytes and nicotine via a dryer and condenser (Capacity: 9.6 tpd);
- **Hazardous Nitrous Oxide Cannister Destruction** - mechanical piercing and / or degassing (Dependant on canister size) of nitrous oxide cannisters, and treatment of nitrous oxide via a heated catalyst reaction unit prior to emission to air (as N<sub>2</sub> and O<sub>2</sub> – inert gases) (Capacity: 1.12tpd - gross).
- **Tobacco and Packaging Destruction** - manual sorting/de-packaging, shredding and compaction of hazardous and non-hazardous tobacco products (hazardous and non-hazardous waste to be processed and stored separately) (Capacity: 10 tpd);
- **Manual Sorting and Repackaging of Online Returns** – Manual sorting, separation, de-packaging of non-hazardous and hazardous non-saleable products (including the removal of batteries from electronics, and the removal of secondary packaging from food).
- **Non-Hazardous Clothing and Textiles** - manual sorting/de-packaging, shredding and compaction of non-hazardous textiles;

1.3.13 The equipment used in this area is summarised in **Table 1**.

**Table 1: Waste processing plant within Main Processing Building**

Equipment	Qty	Processes	Equipment Capacity*		Abatement Measures / Notes
Vape Hammermill	1	Vape destruction	200kg/hr		Hammer mill provides controlled atmosphere (6 bar N <sub>2</sub> blanket).  Nicotine, battery electrolyte, and VOCs evaporated in dryer and extracted from chamber prior to being condensed and contained in canister for transfer.  A carbon filter is present where the condenser emits to atmosphere which is capable of trapping any remaining vapours.  A self-cleaning dust filter is present internally. When saturated, compressed air is passed through liberating the dust, which is collected in a sealed drum.
Ulster U45 30Kw Industrial Shredder	1	Cigarette and packaging shredder	Not Applicable		Fitted with Donaldson PowerCore CPC-6F dust filter system with explosion relief and flame arrestor
30kW Short Bed Shredder with CK 400 HFE PC Semi auto baler	1	Textile Shredder	Not Applicable		Produces 400kg bale. Hopper has localised fire suppression.
Large N <sub>2</sub> O 'Wagons'	6	Nitrous Oxide Cannister Processing	Large Canisters	500kg/16 hours	Up to 26 cannisters per wagon. Wagon is fitted with non-return valves so is not required to be fully populated. Pipework connects to

Equipment	Qty	Processes	Equipment Capacity*		Abatement Measures / Notes
					destruction unit. No diffuse release.
Medclair GEDs (Gas Extraction and Disposal System)	1		Small canisters		Hopper infeed and Double airlock with cutting mechanism to puncture canisters
Medclair DU2000 N2O Destruction Unit	1		N2O De-composition		Continuously monitored and controlled by sensors and control unit with alarm. Includes an integrated UPS (Uninterruptable Power Supply)

### Alcohol and Cosmetics Building

1.3.14 The alcohol and cosmetics building will facilitate the following waste treatment processes:-

- **Non-Hazardous Liquid Destruction** – compacting/baling of plastic and metal packaged non-hazardous alcohol and non-alcohol products to segregate the contents and the blending of subsequent liquids for recovery off-site;
- **Hazardous alcohol and cosmetics destruction** – shredding of glass packaged hazardous alcohols and cosmetics in a controlled environment for blending and subsequent recovery for off-site transfer (Capacity: 40tpd);

1.3.15 The alcohol and cosmetics building will contain palleted storage of incoming waste streams, with residual packaging stored externally in curtain-sided trailers or containers / skips. The drained liquids contents will transfer for storage in a one of three tanks will be located externally in a bunded tank farm.

1.3.16 The equipment used in in this building are summarised in **Table 2**.

**Table 2: Waste processing plant within Alcohol and Cosmetics Building**

Equipment	Process	Equipment Capacity	Abatement Measures
Purpose Built Baling Plant with sump	Non-hazardous alcohol depackaging	Up to 40tpd	Not Applicable
U-45LB 30kW Industrial shredder with discharge mesh and sump.	Hazardous Alcohol / Cosmetics (Glass)	Up to 40tpd	Spray bar fitted in feed hopper to douse shredder with continual water flow
Inclined conveyor loading			500L collection tank with spill bund, stop valves and pump to external tank farm

1.3.17 All elements associated with the operation of the Tipton facility accord with the latest published BREF document for Waste Treatment (August 2018) and the associated BAT Conclusions. Biffa's SOPs and the storage of non-hazardous and hazardous materials have been prepared in accordance with the relevant appropriate measures and various HSE standards, including HSG 51, 71, 76, 140, 176 & CS21.

- 1.3.18 All Standard Operating Procedures are regularly reviewed and updated (where required) to ensure Best Operational Practice. Copies of all Standard Operating Procedure documents are maintained electronically and can be accessed via the Biffa Waste Services Intranet system.
- 1.3.19 An overview of how the Standard Operating Procedures control odour emissions is presented in **Section 3**.

#### Operational Hours

- 1.3.20 During the early stages of establishing the SWaRF, waste processing activities shall only be carried out between 0600hrs – 0000 hrs Monday to Fridays and 0600 - 1300 hrs on Saturdays. Once fully established, the SWaRF is likely to progress to 24-hour operation Monday to Friday.
- 1.3.21 The delivery and dispatch of waste to and from the facility will be restricted to between 0600hrs to 2200hrs.
- 1.3.22 Maintenance of plant and equipment will be undertaken during daytime operational hours only, unless in an emergency. The EA will be notified within 24 hours should an emergency arise, and the detail/activities will be recorded within the site diary.

#### Site Management

- 1.3.23 The site will operate under Biffa's own Environmental Management System which is externally certified under ISO14001. In order to comply with the regulatory requirements as stated in the Environmental Permitting Regulations, Biffa will ensure that the site is covered by a Site Manager with the appropriate qualifications to manage the Site. The Site Manager will be responsible for ensuring the OMP is enforced and followed at the site.
- 1.3.24 There will be a trained and responsible Site Manager, with the appropriate technical competence qualification to manage the facility. The relevant qualified person or appointed representative will be on site for an appropriate duration of time during working hours to maintain the site logbook and carry out regular daily visual and olfactory inspections of fugitive emissions from the facility.
- 1.3.25 The Site Manager or nominated deputy will ensure that this Odour Management Plan is enforced on site, and its contents are communicated to all employees, visitors and contractors working at the site as part of the induction process.
- 1.3.26 The EA will be informed of any proposed changes to the technical competence arrangements.
- 1.3.27 Should an off-site fugitive odour emissions complaint be received, it is the Site Manager's responsibility to investigate the cause and take corrective action where necessary. In summary, these individuals will:
- Assume responsibility for the management of the site;
  - Ensure personnel and operatives are advised of their roles to minimise the generation of odour;
  - Conduct olfactory monitoring at the downwind site boundary daily or immediately following a complaint (this may be carried out by an appointed person);
  - Deploy suitable odour mitigation measures based on olfactory observation and weather conditions (e.g. warm weather with little to no wind which may aid in dispersion);

- Review the performance of the operatives and efficiency of odour reduction measures;
- Ensure that records are maintained; and
- Ensure that equipment is maintained.

1.3.28 A written programme of maintenance will be developed and implemented for all aspects of site operations. Maintenance will include:

- Routine scheduled inspections;
- Preventative maintenance activities;
- Reactive maintenance activities in the event of any plant breakdown – this will be minimised at all times.

1.3.29 A summary of odour control techniques is provided in **Section 3.0**.

#### **1.4 Sensitive Receptors**

1.4.1 The proposed site lies 2.5km northeast of the town of Tipton, as shown in **Drawing No. BF5094/12/01**. The predominant land use surrounding the site is industrial with various trade companies within the immediate vicinity.

1.4.2 The nearest domestic dwellings are approximately 160m to the west of the permit boundary (Eagle Lane, Tipton). **Table 3** includes a list of potential receptors that have been identified through a desktop assessment of the locality. The locations of these receptors are illustrated in **Drawing No.: BF5094/12/04**.

1.4.3 Bagnall Street Industrial Estate forms part of a larger industrial complex which encompasses the residential conurbation of Harvills Hawthorn, located approximately 300m east of the site. Around this area, the industrial complex extends over 2km to the north and generally between 1 to 1.5km to the northeast, south and southeast.

1.4.4 The canalised section of the River Tame flows northwards immediately west of the site, beyond which are the A41 dual carriageway (Black Country New Road), a disused railway line and Walsall Canal respectively. Beyond this infrastructure are the residential suburbs of Toll End, in which the nearest residential property is c. 160m from the site boundary.

1.4.5 As previously alluded to, the site is surrounded to the north, east and south by the wider extents of an industrial estate. This area is considered to represent a commercial/industrial site and includes a large number of places of work. Businesses located within closest proximity to Tipton SWaRF include (but are not limited to) Tulip Limited (a meat packaging facility) to the east, car parking facilities and a HGV training site (to the north) and Aquila Truck Centre (who provide vehicles, machines and services to the logistics and construction industry) to the south. Other businesses within the wider industrial estate include Cromwell Tools (maintenance and repair supplies), Charter Castings Limited (producer of Aluminium and Zinc Castings), Stainless International (stainless steel supplier and processor), Speedy (tool and equipment hire), The Appliance Recycling Group, Wicke UK (manufacturer of wheels and castors), Enablelink (waste vehicle recycling company) etc.

1.4.6 The nearest Public Right of Way (PRoW) (which is classified as a “Recreational Route”) and is located ~130m to the west of the site, adjacent to the Walsall canal in a north south alignment. This PRoW is also classified as a “traffic free off road cycle route”.

**Table 3: Identified Potentially Odour Sensitive Receptors within 1km of the Facility**

Receptor Name	Receptor Type	Distance / Direction From Site	Brief Description
Industrial Premises	Commercial/ Industrial	Adjacent– 1km North East, East and South East	Commercial / Industrial premises surround the site and include an Iceland warehouse, car parking, HGV training site, logistics, maintenance and repair supplies, aluminium and zinc castings, stainless steel supplier and processors, tool and equipment hire, waste management companies, manufacturers etc
Local infrastructure e.g. Chimney Road, Black Country New Road, New George Henry Road, Bagnall Street, Great Western Way etc	Highways	Local roads – adjacent -1km N,S,E,W Black Country New Road – 40m west, Great Western Way – 260m South	Local infrastructure including roads within the industrial estate and local residential areas
Public Rights of Way	PRoW (Recreational Route)	130m W	Nearest PRoW runs adjacent to the Walsall Canal
Residential areas of Toll End, Harvills Hawthorn, Great Bridge, Ocker Hill etc	Residential Receptors	160m W – 1km in all directions	Residential properties of varying types
Great Bridge Primary School Harvills Hawthorn Primary School	Schools	420m W 575m E	Primary School for children aged 5-11 years old
-Bridgewood Mews -Meadow Court -Abberley House -Ryland View	Care Home/ Nursing Home	690m NW 715m NW 750m NW 915m SW	Residential care or nursing homes

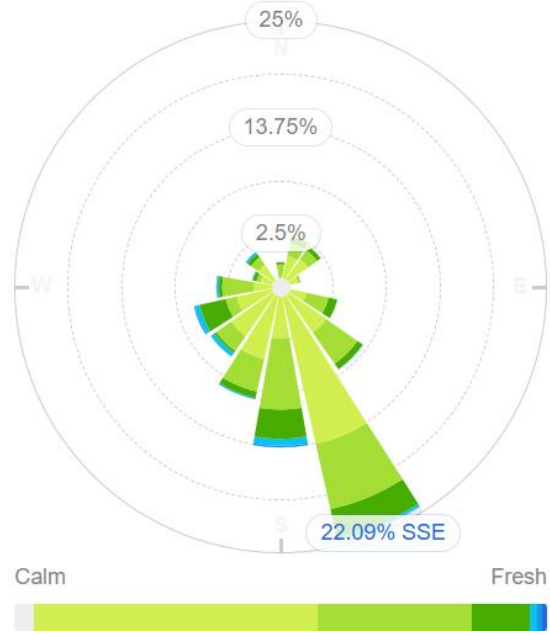
## 1.5 Meteorological Conditions

1.5.1 The fugitive emissions of odour from the site could be affected by local weather conditions, in particular wind direction and rainfall.

1.5.2 A wind rose showing the five year average wind direction (vector) and speed recorded at Coleshill, located appropriate 24km east of the site, is presented in **Figure 1**. The weather station is deemed the most appropriate for use in order to characterise the site due to its proximity and its environmental setting. Wind patterns at the Coleshill are likely to be similar to those likely to be experienced at the site.

1.5.3 It can be observed from **Figure 1** that the wind will be blowing primarily from the south-southeast and south.

Figure 1: Wind Rose for Coleshill Recording Station between (5 year average)



## 2.0 ODOUR SOURCE INVENTORY

### 2.1 Odour Sources

2.1.1 To aid with risk identification and magnitude justification an Odour Risk Assessment has been carried out as part of the Environmental Accidents Risk Assessment (*Doc Ref: BF5094/08*). The Odour Risk Assessment has been completed by considering each of the odour sources identified in the following sections in terms of:

- Frequency of occurrence;
- Intensity of odour released;
- Pathways and receptors involved;
- Environmental consequences of the event;
- Overall risk and its significance to the environment; and
- Control and mitigation measures needed to prevent or reduce the risks.

2.1.2 The Odour Risk Assessment also considers the potential odour sources that may be encountered during maintenance and abnormal conditions or situations.

2.1.3 A review of the odour generation potential of wastes handled at the facility is presented in **Table 4**.

**Table 4: Odour generation potential of wastes handled at the facility**

Waste Types	Initial Storage Area	Process	Post-treatment storage area	Odour Generation Potential
Nitrous Oxide	Palletised within main processing building	De-gas and decomposition	Discharge of inert products. Empty canisters to be stored internally in containers	Low
Cigarettes/ tobacco	Palletised within main processing building	Shredding and Compaction	Within covered compactor containers externally	Moderate
Vapes	Palletised within main processing building	Milling, separation and filtration	Internally in containers	Moderate
WEEE	Palletised within main processing building	Manual sorting, (milling and separation for selected suitable)	Internally in containers	Low
Alcohols and liquid cosmetics	Palletised in alcohol and cosmetics processing building	Shredding and Compaction	Tank farm	High
Textiles	Palletised within main processing building or manual sorted/ segregated and stored in bins within main processing building	Shredding and/or Baled	Externally in baled form in container	Low
Foodstuff	Palletised within main processing building	Manually sorting/ depackaging	Externally in baled form in container	Moderate-High
Household cleaning products	Palletised within main processing building	Manually sorting/ depackaging	Internally in containers	Moderate
Packaged Cosmetics	Palletised within main processing building (Dry) or alcohol / cosmetics building (Liquids).	Manually sorting/ repackaging (secondary packaging only)	Internally in containers	Moderate

Waste Types	Initial Storage Area	Process	Post-treatment storage area	Odour Generation Potential
Paper/Card packaging	Manual sorted/ segregated and stored in bins within main processing building	Baling, or shredding and compaction	Externally in baled or shredded form	Low
Cardboard packaging	Manual sorted/ segregated and stored in bins within main processing building			Low
Plastic packaging	Manual sorted/ segregated and stored in bins within main processing building		Externally in baled form	Low
Metallic packaging	Manual sorted/ segregated and stored in bins within main processing building			Low

2.1.4 All wastes will be stored for a maximum duration of 3 months.

2.1.5 Due to the containerised nature of the wastes accepted and stored at the site, and the scope of waste management activities, the potential for odour emissions is severely limited. Despite this, activities where there is potential for odour release are listed in **Sections 2.2–2.4**.

2.1.6 Identified off-site sources with odour generating potential are presented in **Section 2.6**.

## 2.2 Normal Activities Involving Odour Sources

2.2.1 The normal activities involving the sources of odour would include:

- Waste Acceptance & Delivery
- Waste Storage
- Waste Processing

2.2.2 As discussed above, whilst the potential for odour emissions is more associated with specific elements of the activities e.g. delivery, storage and processing of potentially odour generating wastes, it is not exclusively the case.

## 2.3 Maintenance Activities Involving Odour Sources

2.3.1 Operational interaction between odour sources and maintenance activities could include the following:-

- Waste storage cleansing – this includes the internal processing/offloading areas or storage areas.
- Building Fabric Maintenance – this could include maintenance on building access and egress points (vehicle / plant and personnel doors) which results in pathways for fugitive emissions which are not normally present.
- Treatment Infrastructure Maintenance – this could include routine upgrades to treatment and storage tanks, vessels and pipes.
- Drainage Maintenance and Cleansing – clearing blocked channels, drains and ensuring the small sump on site is regularly emptied and cleansed to prevent additional point sources of odour.

## 2.4 Accidents / Incidents Involving Odour Sources

2.4.1 Accidents and their consequences have been considered for a range of potential risks from the overall operation in the Accident Risk Assessment which has been submitted as part of this Environmental Permit Variation Application (Doc. Ref.: BF5094/08).

2.4.2 Notwithstanding the existing information, with regards to accident / incident events involving sources of odour, these could be related to:

- Spillages and loss of containment.
- Damage / faults with buildings or treatment infrastructure
- Faults with processing equipment or storage tanks.

2.4.3 All vehicles delivering waste to the site will be fully enclosed or covered and daily visual inspections will be carried out as part of the daily Operation and Management checks. Absorbent materials will be kept on site and used in the event of a spillage or leak. Litter picking will also be carried out as and when necessary.

## 2.5 Location of Potentially Odorous On-Site Activities

2.5.1 Potential odour emissions from these areas will be mitigated by conducting the treatment activities within an enclosed buildings and storing all significantly odorous waste internally or in tanks, which will provide primary containment of potential odour. The rest of the wastes (including tobacco and general destruction material) will also be treated internally. In the event that an issue with fugitive odour emissions is identified, the roller shutter doors will be closed and only opened for access to and egress from the building in order to provide odour containment until the issue is rectified.

2.5.2 The locations of the internal storage and processing areas are illustrated on **Drawing No.: BF5094/12/02**. The drainage layout is presented in **Drawing No.: BF5094/12/03**.

## 2.6 Potentially Odorous Off-Site Sources

2.6.1 The site is surrounded by industrial/commercial premises and businesses which mainly comprise of warehouses, tool and equipment hire, stainless steel suppliers, manufacturers of wheels and casters, HGV storage and training depots and providers of vehicles to the construction industry. Whilst there is the potential for odour emissions, significant malodorous ones are unlikely. Similarly, the residential areas, roads are highly unlikely to produce significant odour emissions.

2.6.2 In addition to the above, there are a number of waste management facilities within the wider industrial estate, however they are concerned with the recycling of scrap metals and ELV's or the recycling of WEEE (household appliances). These facilities are not considered to represent a significant off-site source of odour.

2.6.3 The off-site activity with the greatest potential to produce odour is the Iceland warehouse to the East, which handles foodstuffs. It is considered that when running normally this business would not produce any odours, however, under abnormal circumstances, due to the putrescible nature of food there is potential for odour.

**Table 5: Identified Potential Odour Sources**

Source Description				Likely Odorous Compounds	Containment/Release Point	Odour Description	Intensity at/or Near Release Point	Pattern of Release	Potential
Source	Type of Emission	Type of Waste	Odour Risk						
Waste delivery, acceptance and pre-treatment storage	Fugitive	Vapes, tobacco, alcohols, foodstuff, cleaning products and cosmetics	Very Low	Potential release of fragrant contents and volatile compounds.	Enclosed vehicles and internal storage areas	Variable depending on the composition of waste.	Odour is expected to be noticeable only in close proximity to vehicle (<1m).	Intermittent release, near to ground level.	Only if packaging is damaged
Manual sorting/ de-packaging of waste	Fugitive	Cleaning products and cosmetics	Very Low	Potential release of fragrant contents and volatile compounds	Main Processing Building	Variable depending on the composition of waste.	Odour is expected to be noticeable only in close proximity to vehicle (<1m).	Intermittent release, near to ground level.	Only if primary containment packaging is damaged during treatment
Mechanical Shredding	Fugitive	Tobacco, and plastic, card/paper, cardboard, packaging	Moderate	Volatile compounds	Main Processing Building	Variable depending on the composition of waste	Odour is expected to be noticeable only in close proximity to shredder (<1m).	Intermittent release, near treatment plant when operating	Air filter fitted to shredder.
	Fugitive	Alcohol and cosmetics	High	Volatile compounds and fragrances	Alcohol and cosmetic building	Variable depending on the composition of waste	Odour is expected to be noticeable only in close proximity to building	Intermittent release, near treatment building when operating	Enclosed plant. Water dousing supports fire and odour suppression.

Source Description				Likely Odorous Compounds	Containment/Release Point	Odour Description	Intensity at/or Near Release Point	Pattern of Release	Potential
Source	Type of Emission	Type of Waste	Odour Risk						
Baler	Fugitive	Alcohol (non-hazardous)	Moderate	Volatile compounds	Alcohol and Cosmetics building	Variable depending on the composition of waste	Odour is expected to be noticeable only in close proximity to building	Intermittent release, near treatment plant when operating	Baler drains to a sealed collection sump.
Hammermill	Fugitive	Vapes	Low	Potential release of fragrant nicotine contents	Main Processing Building	Variable depending on the composition of waste	Odour is expected to be noticeable only in close proximity to shredder (<1m).	Intermittent release, near treatment plant	Enclosed system with abatement plant
Tank farm	Fugitive	Alcohol and cosmetics	Moderate	Volatile compounds and fragrances	Vent stack	Variable depending on the composition of waste	High level release will promote dispersion.	Intermittent during filling	Control pumping and filling of tanks to minimise high releases
Internal storage areas/bays	Fugitive	Plastic and metal packaging	Low-Moderate	Volatile compounds with alcohol	Main Processing Building and Alcohol and Cosmetics Building	Variable depending on the composition of waste residues	Dependent on proportion of scents/flavours being processed	Intermittent release, near to ground level.	Dependent on quantity of odorous residues remaining on packaging

Source Description				Likely Odorous Compounds	Containment/Release Point	Odour Description	Intensity at/or Near Release Point	Pattern of Release	Potential
Source	Type of Emission	Type of Waste	Odour Risk						
Sealed drainage sumps (Alcohol and Cosmetics Building)	Fugitive	Contaminated run-off/	Low	Volatile compounds and fragrances	Manholes, gullies and open channels	Variable depending on the composition of waste	Dependent on proportion of scents/flavours being processed	Intermittent release, close to ground level at manholes, gullies and open channels	Low

### 3.0 ODOUR CONTROL MEASURES

#### 3.1 Source-Pathway-Receptor Model

3.1.1 The potential sources, pathways and receptors to odour emissions originating at the site as well as the associated mitigation and odour control measures to be taken at the site have been summarised in Environmental Accident Risk Assessment (*Doc Ref.: BF5094/08*) prepared for the site.

#### 3.2 Process Controls

##### Pre-Acceptance

3.2.1 All transfer enquiries received from customers will be handled by Biffa's National Customer Service Team. This team will collate all the necessary pre-acceptance information, including details of the waste producer and waste characterisation details. Only once all the necessary information has been collated and shown to conform to the site permit will the customer and the site staff be notified that the wastes can be collected and delivered to the facility by Biffa's own commercial and industrial collection services or delivered by approved third-party licensed waste carriers. Details of the wastes that will be delivered will be forwarded to the site weighbridge operator ahead of delivery to the site.

3.2.2 The Site operates according to the written Standard Operating Procedure for the Pre-Acceptance of containerised waste (SOP 01). This ensures that incoming waste is correctly identified, classified, labelled, priced and the onward fate of the waste is determined prior to the acceptance at the site. Waste should not be accepted without a clear method of treatment or disposal route being determined.

3.2.3 The purpose of SOP 01 is to prevent the acceptance of unsuitable wastes, all waste streams destined for the Site are subject to a pre-acceptance process involving the producer, Sales, Operations, Customer Services and Technical personnel. These pre-acceptance criteria extend to potentially odorous wastes.

3.2.4 Additionally, SOP 01 ensures that incoming waste is correctly identified, classified, labelled, priced and the onward fate of the waste is determined prior to acceptance at the site. Waste should not be accepted without a clear method of treatment or disposal route being determined.

##### Waste Reception

3.2.5 During the waste acceptance procedures, records will be kept at the site office of the following:

- Date and time of waste deliveries
- Waste quantities
- Waste type being delivered to the site
- The origin of the waste being delivered
- The name of the company and their representations (if applicable) delivering each load of waste and vehicle registration number.

3.2.6 Waste acceptance checks seek to ensure the waste arriving at the site is in the condition and of the type expected. This will be achieved during the visual inspections, where an appropriately trained staff member will waste to ensure it is in accordance with the pre-acceptance paperwork, as well as the permitted waste types and quantities on site.

- 3.2.7 Once the relevant Duty of Care checks are complete the wastes will be directed to either the main processing building or alcohol and cosmetics building. Vehicles will be supervised during unloading to ensure that they deposit materials correctly. The waste reception procedures significantly reduce the potential risk of odour emissions during the reception of waste.
- 3.2.8 Once the load has been deposited, a further inspection is made by the trained site operatives. The waste is then deposited straight into the main processing building or alcohol / cosmetics building. Once the waste has been deposited into the storage areas, the delivery vehicle re-enters the weighbridge to be weighed before leaving the site.
- 3.2.9 In the event that the waste is deemed unacceptable or legally non-compliant on inspection, the driver will be instructed to leave the site with the load. Vehicle details will be recorded in the site diary, and the EA will be informed during the next site inspection. The site will implement the SOP for Non-Conformance and Waste Rejection which details the assessment and action processes undertaken at the site.

#### Malodorous Wastes

- 3.2.10 Visual and olfactory inspections of wastes will be carried out by trained site staff during the waste reception process. Any significantly malodorous wastes will be prevented from being offloaded and removed from site. A record of any such incidents will be made in the site diary.
- 3.2.11 If the carrier has left the site, it will be stored within the non-conforming waste quarantine area pending offsite removal.
- 3.2.12 Materials that require quarantine but are suitable for storage will be quarantined within a storage bay of the same waste category. Materials in quarantine will be accepted or rejected within 2 working days in line with Biffa's Standard Operating Procedures.

#### Waste Storage

- 3.2.13 Storage on site is laid in accordance with HSE guidance notes HSG71 and HSG51 and DSEAR Regulations. The designated storage area for each waste will be determined by the pre-acceptance information gained with cognisance of the undertaken during the waste reception procedure.
- 3.2.14 The storage arrangements at the site are depicted in **Drawing No. BF5094/12/02**. All incoming waste will be stored internally, with liquid alcohols, beverages and cosmetics stored in tanks, and processed outputs being stored externally within skips, containers or stand trailers.
- 3.2.15 Daily inspections of the conditions of the containers, pallets, bunding, drainage collection systems will take place to identify signs of damage, deterioration and leakage. Records must be kept of these inspections and any remedial actions.
- 3.2.16 In the event of a spillage or the identification of damaged waste containers, the container will be fixed or replaced as soon as practicable and spill kits will be immediately deployed to mitigate any spillages. If deemed necessary, the area should be washed with water and/or detergent. Such instances will be recorded and kept on file.
- 3.2.17 Olfactory odour assessments will also be undertaken as part of Daily Site Inspections. If an odour intensity of 3 or above is recorded (odour intensity scale

is detailed in **Section 4.1**), then appropriate odour source investigation and remediation arrangements will be made.

- 3.2.18 The inherent packaged/containerised nature of the waste stored at site combined with the adopted standard operating procedures are considered to significantly reduce the likelihood of odour emissions.

#### Waste Processing

- 3.2.19 All processing activities will be undertaken in a methodical manner with palletised and containerised waste only opened when they are to be processed. Furthermore, odorous wastes are immediately enclosed once processing has been completed. This approach reduces the potential timeframe within which any odour emissions could occur.
- 3.2.20 Spill kits will immediately be deployed should any spillages occur. If deemed necessary, the area should be washed with water and/or detergent. Records of such instances will be kept.
- 3.2.21 All processing lines are fitted with appropriate odour control and abatement methods. Further details are included below.

#### Manual De-packaging and Sorting/Separation

- 3.2.22 This activity will largely de-package and sort/separate packaged dry products which present a limited odour risk. De-packaging of foodstuff will be limited to the removal of outer packaging only, with primary packaging kept intact pending subsequent recovery off-site.
- 3.2.23 The manual method adopted for this activity will itself minimise odours generation.

#### Packaging Destruction

- 3.2.24 Manual sorted packaging for destruction will be mechanically shredded. This destruction process will not handle any high-risk odours wastes.

#### Textiles Destruction

- 3.2.25 The destruction of textiles will be undertaken by a mechanical shredder. This destruction process will not handle any wastes with a significant risk of odour.

#### Vapes Destruction

- 3.2.26 Vapes are destroyed via the milling and separation of vape (and suitable WEEE) contents and components, including evaporation of battery electrolytes and nicotine in a dryer.
- 3.2.27 This occurs in a fully sealed machine with inert atmosphere. The evaporated electrolyte and nicotine are condensed and bottled in a canister within the machine. Air passes through a carbon filter and fabric filter prior to the release to atmosphere. The carbon filter will capture any residual contaminants.

#### Tobacco Products Destruction

- 3.2.28 Tobacco will be manually sorted and packaged, with the shredding and compaction of hazardous and non-hazardous tobacco products contained within.

- 3.2.29 Tobacco products are not expected to be significantly odorous. The tobacco shredder uses a dust and explosion suppression system, which emits clean air to the atmosphere.

Hazardous Alcohols and Cosmetics De-Packaging/Destruction

- 3.2.30 Glass packaged hazardous alcohols and cosmetics are shredded in a controlled environment for subsequent transfer and recovery off-site.

- 3.2.31 The shredder features an air extraction system at the mouth and exit of the shredder, which is passed through a wet scrubber system prior to release to atmosphere. This will remove any volatile compounds responsible for odour from the air.

Non-Hazardous Alcohols De-Packaging/Destruction

- 3.2.32 Plastic and metal packaged non-alcohol products are baled and compacted to segregate the contents and packaging for subsequent recovery off-site.

### 3.3 Physical Controls

- 3.3.1 All wastes are stored and treated internally within either the main processing building or the alcohol and cosmetics processing building. Both buildings operate under a closed-door policy outside of operational hours.

- 3.3.2 The storage of waste within a building will also limit the amount of heating experienced as a result of direct sunlight. Heating of potentially odorous waste and waste containing VOC's and SVOC's is a key factor in odour generation. Thereby, the storage arrangements severely reduce the likelihood for the heating of waste by direct sunlight.

### 3.4 Management Controls

Engagement with Neighbours

- 3.4.1 As required by the Biffa's ISO 14001 Environmental Management System, an open communication channel with the local community and receptors who may be affected by the Site's operations will be maintained. The Site/Operations Manager will liaise with neighbouring residential properties every quarter for the first year of operation, and annually thereafter to determine if the Site is resulting in any level of annoyance. Appropriate contact information (e.g. telephone number and e-mail) will also be displayed at the site.

- 3.4.2 The Site will be a reliable source of information to the community and readily available to answer any questions of queries. Active participation in the community will ensure that communication channels such as emails and phone calls are welcomed, and an appropriate response is formed by the Site/Operations Manager.

- 3.4.3 The Site also operates a comprehensive complaint reporting and resolution procedure which can be utilised by members of the public and neighbours. This process is presented in **Section 5.0**.

Reception and Storage Operational Procedure

- 3.4.4 As outlined in **Section 3.2**, Standard Operating Procedures are in place for the Site and provide robust practices for the receipt, storage, and processing of incoming waste streams. These procedures ensure that waste arrives, is stored,

and departs the site in a safe manner and reduces the likelihood for abnormal operating circumstances and related emissions (including odour).

- 3.4.5 The site only processed specific wastes stream under contract with designated government authorities and a limited number of commercial entities. This allows appropriate control over waste deliveries and dispatch to ensure site capacity is not exceeded.

#### Waste Acceptance Parameters

- 3.4.6 The waste acceptance procedures outlined in **Section 3.2** provide a robust framework to prevent the acceptance of unsuitable wastes at the site. There will also be emphasis on the Duty of Care requirements undertaken as part of the overall site operation.

- 3.4.7 Potentially odorous wastes will be accepted at the site, however, these will be delivered within sealed containers for odour containment. Any malodorous wastes in unsuitable containers will either be repackaged upon receipt or will be prevented from being offloaded and removed from site. Should the waste be rejected, a note will be made within the site diary and the Environment Agency will be informed at the appropriate juncture.

#### Minimising Evaporation of Odorous Materials

- 3.4.8 The Waste acceptance procedures outlined in **Section 3.2** provide a robust framework to prevent the acceptance of unsuitable wastes at the Site. Storage arrangements of odorous waste streams are such that evaporation is limited.

- 3.4.9 Any malodorous wastes in unsuitable containers will either be repacked upon receipt or will be prevented from being offloaded and removed from site. The EA will be informed at the appropriate juncture should any malodorous wastes be rejected from the Site.

#### Containment and Abatement

- 3.4.10 It is considered that the wastes to be accepted at the site will not produce significant levels of odour with the management and pollution control methods outlined above. Primary containment will be provided in the form of storing waste palletised, within packaging until treatment, and secondary containment will be provided in the form of storage within an enclosed building. The treatment of wastes (e.g. unpackaging of alcohols) will occur within enclosed equipment, minimizing the risk of odour release. Therefore, the abatement of emissions is unlikely to be required. As such, a passive roof vent is considered to be sufficient to ensure the build-up of volatiles does not occur in the roof space and measures such as forced extraction / ventilation are not deemed necessary.

- 3.4.11 The significant majority of containment and abatement measures employed at the site are independent of power supplies (e.g. electricity). Accordingly, should there be a power failure at the site this will not impact upon the integrity of the containment and abatement systems.

#### Dispersion

- 3.4.12 As the wastes to be accepted at the site are not considered likely to produce significant odour emissions, it will not be necessary to conduct dispersion modelling. The main emissions points will be situated at locations which are furthest away from the nearest sensitive receptor and monitoring points will be strategically located to ensure this is effective.

### Housekeeping and Routine Cleaning

- 3.4.13 The site will be subjected to a strict housekeeping regime which assists with the aim of proactive management and associated environmental compliance. Daily inspections of the site will be undertaken as part of the management procedures. Daily checks are reinforced and supported by weekly supervisor and monthly manager inspections.
- 3.4.14 Routine cleaning of the relevant areas of the site, such as the reception area will be undertaken at appropriate frequencies. The routine cleaning will be arranged to ensure there is no disruption to the continuity of operations.

### Plant and Equipment

- 3.4.15 Site infrastructure and plant will be inspected daily for damage and wear by site personnel as part of daily operation and management inspections. Any defects noted during these daily inspections will be logged and reported to the maintenance team, so repairs can be scheduled.
- 3.4.16 Records of inspections will be maintained in a site log. All plant items and equipment will be serviced and maintained according to manufacturer's schedules and recommendations to minimise the risk of breakdown. All maintenance on the plant is programmed into the company's planned preventative maintenance (PPM) system which generates work orders for the up-coming maintenance and logs when maintenance has been completed.
- 3.4.17 Trained maintenance staff will carry out plant repairs quickly where required. Mobile plant repairs will be undertaken as soon as practicable, dependant on the availability of spares.

### Responsible Reporting

- 3.4.18 As part of the operator's overall management system, reporting of relevant issues will be undertaken in accordance with the conditions of the Environmental Permit. The operator will be tasked with ensuring a level of 'self-policing' and will therefore be responsible to ensure that any matters that warrant it are brought to the Environment Agency's attention within the required timescales.

## **3.5 Odour Control During Abnormal Events and Maintenance Periods**

### Abnormal Operational Situations

- 3.5.1 The following scenarios have been identified in the Accident Risk Assessment (*Doc. Ref.: BF5094/08*) prepared for facility that could affect odour control:
- Storage of waste during long periods of time due to plant shutdown;
  - Accidents resulting from leakage of any waste ;
  - Delivery of malodorous waste;
  - Plant and equipment malfunction/breakdown.
- 3.5.2 The risk assessment approach used for the assessment of potential odour impact during normal operations has also been employed in the assessment of odour control techniques during abnormal situations. The Environmental Accident Risk Assessment (*Doc Ref.: BF5094/08*) includes an appraisal of abnormal conditions where odour control may be compromised, the potential impact of consequences and how the conditions may be prevented and / or mitigated and controlled. The controls involve:

- Identification of malodourous waste during waste acceptance checks;
- The rejection of malodorous incoming waste loads from site;
- Agreeing waste delivery schedules prior during pre-acceptance checks;
- Identification of contingency facilities to which incoming waste could be temporarily diverted to;
- The quarantine of accepted waste which has become malodorous during time stored on site and its removal by a licensed carrier within 24 hours.

#### Maintenance Periods

- 3.5.3 Where planned or emergency maintenance of plant or equipment is required, and there is a likelihood of odour being released to atmosphere in quantities sufficient to result in detection of odour by offsite receptors, a detailed risk assessment of the activity will be undertaken in accordance with the following guidance documents:
- H1 Environmental Risk Assessment Part 1: Simple assessment of environmental risk for accidents, odour, noise, and fugitive emissions;
  - The Environment Agency's Horizontal Technical Guidance Note H4 – Odour Management- How to Comply with Your Environmental Permit (October 2011).
- 3.5.4 If the subsequent risk assessment identified a high risk of odour generation from specific on-site waste/processed materials during the maintenance period, then the Site Manager will arrange for the collection and removal for the identified waste/materials from the site.
- 3.5.5 However, to reduce the likelihood of equipment breakdowns and mitigate the potential impact the following control measures will be in place:
- A preventative maintenance schedule will be employed to reduce the risk of plant breakdown;
  - All maintenance undertaken will be in accordance with plant equipment manufactures recommendations;
  - A list of suppliers or contractors for critical equipment and/or standby equipment will be maintained;
- 3.5.6 Biffa maintenance personnel can be called to the site within 24 hours in the event of any breakdown of critical plant.

## 4.0 ODOUR MONITORING AND RECORDING

### 4.1 Odour Monitoring

- 4.1.1 Biffa's accredited Integrated Management System includes details relating to odour monitoring procedures that have been developed and accord with accepted guidance and standards, including the EA's document 'H4 Odour Management – How to Comply with your Environmental Permit'. Due to the nature of the facility, olfactory monitoring techniques will be employed onsite and completed as part of Operational and Maintenance Daily Checks.
- 4.1.2 Additional monitoring beyond the site boundary will be completed in response to the identification of potential significant odours within the site or the receipt of complaints. All monitoring will be carried out in cognisance of the prevailing weather conditions.
- 4.1.3 This will comprise olfactory monitoring (i.e. 'Sniff' tests) with record sheets completed and filed. Any odour emissions noted will result in the implementation of the Odour Management Plan protocols detailed. Any complaints received in relation to odour will be fully investigated as detailed in the following sections. The resultant actions will be recorded in the Site Diary.
- 4.1.4 Further details of the proposed odour monitoring to be undertaken are provided within the following paragraphs.
- Meteorological Conditions*
- 4.1.5 Meteorological forecasts and weather conditions (including atmospheric pressure as well as wind speed and direction) will be monitored daily to enable potential odour problems to be predicted and necessary remedial actions to be implemented.
- Regular Inspection / Olfactory Monitoring*
- 4.1.6 Odour monitoring will be undertaken in order to assess how successful the operational management and mitigating control measures are at the Facility and to identify whether odour is causing a potential nuisance as well as to ensure that appropriate remediation measures are adopted early.
- 4.1.7 It is important to ensure that odours which may be attributable to the Site are the ones being monitored for.
- 4.1.8 All site personnel will be responsible for reporting any odour problems as soon as reasonably practicable to the Site Manager, or the next level of management if the Site Manager is not available.
- 4.1.9 The Site Manager will ensure that olfactory odour monitoring is completed; in accordance with the H4 guidance, as part of the Operation and Maintenance Daily Checks and that both operational areas and the site perimeter are inspected. This approach will enable the identification of any sources of odour and establish whether any odours are attributable to site operations are discernible from beyond the site perimeter.
- 4.1.10 Daily olfactory monitoring will be recorded on the 'Operation and Maintenance Daily Check Sheet' – a copy of which is included in **Appendix 1**.
- 4.1.11 Monitoring will be carried out by staff who have had limited exposure to operational areas of the site to minimise the risk of inspection being carried out

by staff that may be suffering from odour fatigue. Odour monitoring at the site will consist of the items outlined in **Table 6**.

**Table 6: Odour Monitoring Parameters, Techniques and Frequencies**

Parameter	Monitoring Technique	Frequency
Meteorological Monitoring	On site weather station or appropriately obtained meteorological data.	Continuous.
Olfactory Monitoring ('sniff testing')	Site perimeter and off-site checks (towards the identified sensitive receptors).	Ad-Hoc (minimum of 3 per day).
Complaints Monitoring	Telephone or written representations direct from the public or via the regulatory authorities.	Ad-Hoc.

**Note:** The frequency will be reviewed monthly within the first 12 months of operation, subject to operational experience and complaints which may require more frequent monitoring.

4.1.12 If significant odours are identified around the periphery of the site, olfactory monitoring will be extended beyond that boundary to determine the extent of any impact and in consideration of the presence of a sensitive receptors and wind direction. The location of monitoring will also depend on the location of any complaints received at the Site with the monitoring results recorded in the site diary.

4.1.13 Olfactory monitoring or 'sniff' testing will be conducted in accordance with the recommendations detailed in the Environment Agency's H4 Guidance, which includes the avoidance of strongly scented foods, drinks and deodorisers or toiletries etc for at least half an hour prior to the monitoring. In addition, individuals suffering from a cold, sore throat or sinus problems that may impair their ability to detect odours will not undertake the monitoring. Likewise, the olfactory monitoring will be undertaken by employees that have not been desensitised by exposure to malodours during their normal job practices.

4.1.14 The designated person will exit their vehicle and remain in the locality for a minimum of 1 minute whilst breathing normally. Any external activities that may contribute to odour generation in the surrounding area will also be noted together with weather conditions (including wind direction and speed) and then an assessment of the intensity of the odour will be made using the guide below:

Intensity Scale

0. No detectable odour
1. Very faint odour (only just detectable)
2. Faint odour (barely detectable, need to stand still and inhale facing into the wind)
3. Distinct odour (detected while walking and breathing normally)
4. Strong odour (easily detected while walking and breathing normally, possibly offensive)
5. Very strong odour (bearable, but offensive)
6. Extremely strong odour (not bearable)

4.1.15 In the event odour is detected above an intensity scale of 3 (Distinct Odour), the site management will be informed immediately, and the approximate location and extent of the odour plume will be assessed, and site operations reviewed / suspended. However, it is not simply the intensity that is being assessed, as consideration will also be given to the FIDOR (**F**requency of detection, **I**ntensity, **D**uration, **O**ffensiveness and **R**eceptor sensitivity) principle such that, for example, a long duration lower intensity odour or very offensive short duration event will both be assessed and investigated.

- 4.1.16 Unlike the olfactory odour assessment completed as part of the Operation and Maintenance Daily Checks, any odour assessments undertaken in response to the detection of an odour intensity ranking of 3 (Distinct Odour) or above OR as a result of an external complaint will be completed using the Odour Assessment Report presented in **Appendix 2**.

## **4.2 Odour Diaries and Community Surveys**

- 4.2.1 Full records will be kept with regards to a range of incidents that may occur in relation to the site activities.
- 4.2.2 The main diary will be used to record the status of the operation and its emissions in relation to odour. This will act as a site wide document confirmation that odour monitoring has been undertaken and summarise the conclusion of that exercise.
- 4.2.3 On review of meteorological data and any complaints received, should a clear pattern emerge, if necessary, community surveys will be undertaken at set intervals with frequency proportionate to the risk from said emissions posed. These surveys will be a more detailed assessment of specific locations within the receptor areas identified. These surveys will be made available as required as part of on-going community liaison commitments.

## **5.0 COMPLAINTS HANDLING**

### **5.1 Complaints Process**

5.1.1 Any complaints received at the Facility or via the Regulatory bodies (including the Environment Agency and Local Authority) will be recorded and will instigate further olfactory monitoring at the location of the complaint and onsite to determine the extent and location of the plume and the odour causing materials and / or process will be identified. Where possible, as much information and detail about the complaint will be recorded, whether this be from the relevant authority or complaint direct to the site. This information will assist in the investigation and determining the source of the odour.

### **5.2 Means of Contact**

5.2.1 The facility will be readily contactable to outside organisations and to members of the public. The site signage board (placed in a visible location) will contain the necessary details for both the site operations and the Environment Agency, including contact details and the site permit number.

5.2.2 Contact details will also be made available through the local community liaison officer .

5.2.3 As part of the facility operation and development, a community engagement plan will be developed if found to be necessary, the purpose of which would be to identify all sensitive receptors and formulate a communications plan. The community engagement plan will detail the complaints management and reporting procedures, this will include, but will not be limited to:

- Information provided to the local neighbours (via the Environment Agency) regarding the point and method of contact for the Facility in the event an odour has been detected or they want to discuss any activities etc at the Facility;
- Advice provided to the neighbours that any complaints / concerns will be addressed immediately following identification / notification and contingency action implemented; and
- The neighbours will be informed of any corrective action and a follow up call will be carried out if necessary.

5.2.4 Any complaints received directly to the site will be notified to the Regulator as soon as possible.

5.2.5 Therefore, should an off-site issue arise, the complainant has a means of getting in touch with the operator. Biffa will complete an electronic Complaint Form/Log to ensure that there is a record of details, including but not limited to the following:

- The complainant's name and contact information;
- The date and time of the complaint;
- The weather conditions at the time of the complaint (including the temperature and wind strength and direction at that time);
- The complainant's description of the odour;
- The results of the latest olfactory monitoring;
- The operating conditions at the time of the complaint; and
- Any other relevant information.

5.2.6 Biffa's electronic complaints system facilitates reporting, tracking, follow up and identification of trends.

### 5.3 Complaint Recording

5.3.1 Should a complaint be received, the following information will be gathered and recorded:

- Complaint details (including the address of the complainant where possible) and the location where odour is perceived;
- Weather conditions including atmospheric pressure, wind speed and wind direction;
- Results of the latest olfactory monitoring carried out by the site personnel;
- Operational status of the facility (noting any abnormal conditions that may have caused the complaint); and
- Details of the proposed corrective action if required.
- Subsequent follow up to the complaint detailing whether the corrective action, if required, was successful. If not, a new strategy will be implemented until the issue is resolved.

5.3.2 Records of complaints received (i.e. completed electronic Complaint Forms) will be kept on Biffa's internal computer system and can, therefore, be accessed in the site office for inspection and reviewed by both internal and external personnel.

### 5.4 Complaint Screening

5.4.1 As part of each odour complaint received, these will be objectively assessed against the wider environment to ensure that the source of the emission is traced back to the correct source. As discussed earlier in this OMP, it is essential that the source is correctly identified in order that mitigating measures can be applied effectively and correctly. The complaint will also be assessed against previous records to place the nature of the complaint into context.

### 5.5 Complaint Investigation

5.5.1 In the event that odour is found to be causing a problem at the site, as determined and confirmed by investigation into off site complaints or during routine monitoring, measures will be taken to determine the source, and the following courses of action shall be taken:

- Additional olfactory monitoring as detailed above to identify the extent of the plume and potential cause of the odour i.e. waste material and / or process activity;
- Examination of the operational activities at the site at the time of the odour complaint or odour identification;
- Examination of the meteorological conditions at the time of the complaint or odour identification;
- Examination of the process conditions via the plant operational records / telemetry;
- A review of the operational procedure and process controls and the instigation of any control measures immediately following identification of the problem; and
- Further olfactory monitoring will be carried out to ensure the issue has been addressed and to monitor the effectiveness of any control measures undertaken.

5.5.2 It is the operator's experience that complaints submitted to regulatory authorities can be made long after the actual odour event or delayed in their relay to the

Permit holder for actioning thereby making some investigations difficult due to the often-transient nature of odour or changing meteorological conditions. All complaints will be investigated, however, direct calls to site from complainants will allow for an immediate response and review.

## **6.0 ACTIONS, CONTINGENCIES & RESPONSIBILITIES DURING PROBLEM EVENTS**

### **6.1 Default Procedures**

6.1.1 In the event that an emission of odour is identified during the normal course of operations, either through daily routine monitoring, or in response to off-site complaints, the default procedure will be to investigate the emission in line with **Section 5.5** above which is an appropriate response to both off site complaints as well as on site investigations following on from routine inspections.

6.1.2 It is the responsibility of the Site Manager to ensure procedures as set out in the OMP are put into action.

### **6.2 Emergency Procedure**

6.2.1 Monitoring for odorous emissions will be undertaken during a time in which extreme release of odour is experienced e.g. delivery of material to site, processing of putrescible waste. Odour masking agents can be utilised if necessary and operations which may lead to increased odour release will be temporarily stopped.

6.2.2 Consideration will also be made as to the suspension of receipt of malodorous wastes and / or the removal of waste from the site that is held in storage areas (if necessary).

### **6.3 Event Reporting**

6.3.1 In the event of any significant environmental emergency / incident, a representative of Biffa Waste Services Limited ('Biffa') will notify the Environment Agency by telephone immediately, but first having due regard for the incident at hand and any remediation actions required to ensure the safety of site personnel and the immediate environment.

6.3.2 Details of any environmental incident will be confirmed to the Environment Agency in writing by the next working day after identification of the incident. This confirmation will include the time and duration of the incident, the receiving environmental medium or media where there have been any emissions as a result of the incident, an initial estimate of the quantity and composition of any emission, the measures taken to prevent or minimise any further emission and a preliminary assessment of the cause of the incident.

6.3.3 Any incident notified to the Environment Agency will be investigated, and a report of the investigation sent to the EA. The report will detail (as a minimum):-

- the circumstances of the incident;
- an assessment of any harm to the environment; and
- the steps taken to bring the incident to an end.

### **6.4 Problem Resolution**

6.4.1 Once the identified problem has been rectified, a report will be prepared assessing the nature of the incident, the actions taken to resolve the issue, and what changes could be made to the operational practises that would ensure, wherever possible, that the issues had less of a chance of arising again in the future.

- 6.4.2 This Odour Management Plan and the odour related assessments of risks presented in the Environmental Accidents Risk Assessments (Doc. Refs. BF5094/08) will also be reviewed if management practices require updating.
- 6.4.3 This information will be provided to the Environment Agency in accordance with the Event Report procedures discussed in **Section 6.3** above. Any improvements or amendments to operational practices will be discussed with the EA prior to their implementation.

## 7.0 REPORT CLOSURE

- 7.1.1 This document will be subject to on-going review and revision where necessary. This review will be undertaken in response to events which may occur on site, and also to ensure that it accords with the latest regulations and associated guidance documents. The review of the OMP for the site will occur at least once per annum.
- 7.1.2 All revisions to the document will be recorded and details of said revisions will be described as part of the required record relating to document review. This is a requirement in any event as part of Biffa's Quality and Environmental Management Systems and procedures.
- 7.1.3 It is considered that this document complies with the indicative BAT Requirements (BAT 12) as outlined in the BRef for Waste Treatment Document<sup>1</sup> and BAT Conclusion Document (2018/1147) and the EAs H4 Guidance Document on Odour.

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<sup>1</sup> Antoine Pinasseau, Benoit Zerger, Joze Roth, Michele Canova, Serge Roudier; *Best Available Techniques (BAT) Reference Document for Waste treatment Industrial Emissions Directive 2010/75/EU (Integrated Pollution Prevention and Control)*; EUR 29362 EN; Publications Office of the European Union, Luxembourg, 2018; ISBN 978-92-79-94038-5, doi:10.2760/407967, JRC113018



## APPENDICES



## APPENDIX 1

# Operation and Maintenance Daily Check Sheet

# SD03-03 Supporting Document I&C Daily Site Inspection



Manager / Supervisor Name						
Item	Monday	Tuesday	Wednesday	Thursday	Friday	
Environmental	Date:	Date:	Date:	Date:	Date:	
	Time:	Time:	Time:	Time:	Time:	
<b>E1</b>	Weather conditions					
<b>E2</b>	No. of hours COTC holder on site					
<b>E3</b>	Number of operatives on site					
<b>E4</b>	Environmental complaints (YES / NO)					
<b>E5</b>	Perimeter fence - any damage and secure					
<b>E6</b>	Pest control - Birds, flies, vermin					
<b>E7</b>	Litter picking-not required/done					
<b>E8</b>	Odour Management & Monitoring in place					
<b>E9</b>	Dust/Mud Management & monitoring in place					
<b>E10</b>	check Interceptor / septic tanks and drainage clear					
<b>E11</b>	Fuel storage bund clean and not damaged					
<b>E12</b>	Spill kits correctly located and stocked up					
<b>E13</b>	Any non-compliance waste tipped (YES / NO)					
<b>E14</b>	Waste Stock & storage levels compliant?					
<b>E15</b>	Impermeable surface fit for purpose					
<b>H1</b>	Site signage - adequate, clean and visible					
<b>H2</b>	Traffic / pedestrian segregation in place					
<b>H3</b>	Pedestrian walkways clearly marked					
<b>H4</b>	All staff and drivers on site wearing PPE					
<b>H5</b>	Plant daily inspection sheets checked					
<b>H6</b>	Emergency escape routes clear					
<b>H7</b>	Site welfare facilities clean					
<b>H8</b>	Any accidents/injuries(refer to diary & Accident logs)					
<b>H9</b>	Any plant breakdowns (if yes see site diary)					
<b>C1</b>	Deodoriser fluid checked					

<b>C2</b>	Diesel Tank Reading					
	<b>Comments / Remedial Actions</b>					
	<b>Manager / Supervisor Signatire</b>					

<b>Date</b>		<b>Weather Conditions</b>	
<b>Time</b>			

Item	Requirements	Checked By	Comments/Actions	Priority	Actions Completed
Skip Storage	Odours, Leaks, Skip log				
Bunding	Integrity, Cleanliness, capacity				
Odours	Record Odours inc. surrounding facilities				
Storage Bay	Materials segregated				
	Volume - any full bays				
	Stacking, pallet conditions, access				
	Container integrity, leaks				
	Labels- Correct and legible				
LEV system	Visual inspection, pressure				
Emergency access/Egress	Doors work, exits clear				
Perimeter Fence	Secure, no holes or damage				
General Housekeeping	All areas tidy, no waste				
Adjacesnt Stream near site	Check for rubbish, fence line secure				
Glass skip lid	Dust escape, debris on lid or floor				
Plant Checks	End of day check for smouldering material				

<b>Comments for any other issues E.G. Construction works, maintenance, breakdowns etc.</b>	
<b>Name &amp; Job Title</b>	
<b>Signed</b>	

## Group Form SD03-03

### Document Status and Version Control

Document Title	Issue No	Issued by name	Function / Division	Biffa Ref	IMS	Security Classification	Date of Issue	Review Date	Approved by:
Daily site inspection	1	R Massey	SHQ	SD03-02		Unclassified	01/03/2021	01/03/2022	K Daykin
Daily site inspection	1	J McGuire	SHQ	SD03-02		Unclassified	01/03/2021	01/03/2022	K Daykin



## APPENDIX 2

# Odour Assessment Report Form



## ODOUR ASSESSMENT REPORT

### 1. FIELD LOG

Name		Start Time	
Date		Finish Time	
General Weather Comment		Wind Direction	
Temperature		Wind Strength	

### 2. COMPLAINT INFORMATION

Complaint received (Y/N)		Time	
Location/Name of complainant		Substantiated by site (Y/N)	
Details		Activity on site at time of complaint	

If more than complaint on the day record on separate sheet

### 3. ASSESSMENT RECORD

Test No	Location	Sensitivity (Low/Med/High)	Intensity (0-6)	Odour Description	Is odour attributable to site? (Y/N)



## **PROCEDURE**

1. The duration spent at each monitoring locations should be a minimum of 1 minute
2. During this time the assessment record for the location should be completed.
3. The field log should be completed for each monitoring visit using observations and weather forecast information
4. Completed assessment sheets should be kept in the record folder.
5. It is important to record site specific information for the monitoring visit and any departures from normal operating conditions
6. It may be of benefit for an independent individual to accompany the regular assessor to periodically check the data quality.
7. The assessor should avoid strong food or drinks for at least half an hour before undertaking the assessment. Strongly scented toiletries should also be avoided and since colds/sore throats can affect the sense of smell it may be necessary for the assessment to be made by a separate individual.
8. Frequency of monitoring should be assessed at regular intervals, dependent on the potential for odour generation with the assessment times being varied to cover different on-site activities.

## **INFORMATION FOR COMPLETION OF ASSESSMENT FORM:**

### **1. FIELD LOG**

- **General Weather Comment** - Sunny, Raining, Overcast
- **Temperature** - Very warm, warm, mild, cold or °C (if known)
- **Wind Strength** - None, light, steady, strong, gusting
- **Wind Direction** - e.g. Blowing from North

### **2. COMPLAINT INFORMATION**

Where the assessment is being made in response to a complaint the starting point for the odour assessment will be the location from where the complaint has arisen and details specific to the complaint will be recorded on the form.

### **3. ASSESSMENT RECORD**

- **Intensity (Definitions from EA guidance, descriptions developed by Biffa Municipal Limited)**
  0. No detectable odour
  1. Very faint odour (only just detectable)
  2. Faint odour (barely detectable, need to stand still and inhale facing into the wind)
  3. Distinct odour (odour detected while walking and breathing normally)
  4. Strong odour (odour easily detected while walking and breathing normally, possibly offensive)
  5. Very strong odour (bearable, but offensive odour)
  6. Extremely strong odour (not bearable)
- **Sensitivity of location**
  - Low – e.g. Footpath, Road
  - Medium – e.g. Industrial or Commercial Workplaces.
  - High – e.g. Housing, Pub/Hotel etc.
- **Odour Description** – this should record any relevant information about the odours detected including:
  - Does the odour originate from an agricultural/industrial source?
  - Is the odour persistent or intermittent?
  - What does the odour smell like?
- **Is the odour attributable to site? (Y/N)** – can the odour source be traced back to on-site activities? If “YES” identify on-site location. If “NO” identify direction of odour origin.



## APPENDIX 3

# Odour Complaint Form



<b>Odour Complaint Report Form</b>	<b>Date:</b>	<b>Ref. No.</b>
<b>Complainant Name</b>		
<b>Complainant Address</b>		
<b>Complainant Telephone No.</b>		
<b>Time and Date of Complaint</b>		
<b>Time and Date of Odour</b>		
<b>Weather Conditions</b> (e.g. dry, rain, fog, snow)		
<b>Temperature</b> (e.g. Very warm, warm, mild, cold or °C (if known))		
<b>Wind Strength and Direction</b> (e.g. light, steady, strong, gusting)		
<b>Results of Latest Odour Monitoring</b>		
<b>Complainant's description of odour</b> (See guidance notes overleaf)		
<b>Has complainant any other comments about the offending odour?</b>		
<b>Any other previous known complaints relating to installation (all aspects, not just odour)</b>		
<b>Any other relevant information</b>		
<b>Potential on-site sources that could give rise to odour complaint</b>		



<b>Operating conditions at the time offending noise occurred (e.g. waste loading/unloading)</b>	
<b>Action Taken:</b>	
<b>Final Outcome:</b>	

<b>Form Completed by</b>		<b>Signed</b>	
		<b>Date</b>	

<b>Approved by</b>		<b>Signed</b>	
		<b>Date</b>	

**Guidance Notes for Complaints Form Completion**

**Odour Intensity Scale**

- 0. No detectable odour
- 1. Very faint odour (only just detectable)
- 2. Faint odour (barely detectable, need to stand still and inhale facing into the wind)
- 3. Distinct odour (odour detected while walking and breathing normally)
- 4. Strong odour (odour easily detected while walking and breathing normally, possibly offensive)
- 5. Very strong odour (bearable, but offensive odour)
- 6. Extremely strong odour (not bearable)

**Odour Description** – this should record any relevant information about the odours detected including:

- Does the odour originate from an agricultural/industrial source?
- What was the duration of the odour?
- Is the odour persistent or intermittent?
- What does the odour smell like?