ENVIRONMENTAL AND ACCIDENT RISK ASSESSMENT

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

Document Reference: BF5094/08.R0
November 2025

SiriUS Environmental

Project Quality Assurance
Information Sheet

ENVIRONMENTAL AND ACCIDENT RISK ASSESSMENT
SECURE WASTE AND RECYCLING FACILITY, CHIMNEY ROAD, TIPTON, WEST MIDLANDS

Report Status : Final

Report Reference : BF5094/08.R0

Report Date : November 2025

Prepared for : Biffa Waste Services Limited

Prepared by : Sirius Environmental Limited
The Beacon Centre for Enterprise
Dafen
Llanelli
SA14 8LQ

Written by :

William Rees BSc (Hons) MSc
Graduate Environmental Consultant

Reviewed by :

Dylan Thomas BSc (Hons) PGDip MCIWM
Principal Environmental Consultant

Approved by :

Mark Griffiths BSc (Hons) MSc CEnv MCIWM CGeol
Environmental Director

Revision	Date	Amendment Details	Author	Reviewer
0	27/11/2025	First Issue	W.Rees	D.Thomas

BIFFA WASTE SERVICES LTD
SECURE WASTE & RECYCLING FACILITY
CHIMNEY ROAD
TIPTON
WEST MIDLANDS
DY4 7BY

ENVIRONMENTAL PERMIT VARIATION APPLICATION
ENVIORONMENTAL AND ACCIDENT RISK ASSESSMENT

CONTENTS

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	Risk Assessment Matrix

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

1.1 Scope

1.1.1 This document presents an assessment of the risks to the environment and amenities posed by the operation of a Secure Waste and Recycling Facility at Tipton Waste Transfer Station, Chimney Road, Tipton, West Midlands, DY4 7BY.

1.1.2 This risk assessment has been undertaken in accordance with the Environment Agency (EA) Guidance on 'Risk Assessments for your Environmental Permit'; published 1st February 2016 (updated 25th March 2021).

1.2 Site Setting

1.2.1 This Environmental and Accident Risk Assessment (EARA) relates to the operation of a Secure Waste and Recycling Facility (SWaRF) at Chimney Road, Tipton, West Midlands, DY4 7BY. The site is located at Grid Reference (NGR) SO 97944 92922.

1.2.2 The site boundary is shown in **Drawing: BF5094/12/02.**

1.2.3 Biffa are currently authorised under bespoke Environmental Permit number EPR/FB3809KS to carry out non-hazardous waste transfer and recycling activities, including RDF production. Biffa are now seeking to redevelop this site to provide the secure destruction of 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 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.

1.2.5 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

1.2.6 These activities will be carried out internally within two buildings. 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, with skips, containers, or stand trailers used externally for processed waste outputs. There will be no structural separation between the various processing lines.

1.2.7 A newly constructed building on the east of the site will be used for the storage and treatment of hazardous and non-hazardous liquids. This includes an external bunded tank farm for processed liquids, with processed outputs also being stored externally within skips, containers or stand trailers.

1.2.8 All treatment operations will be carried internally over impermeable surfaces. External service aprons will also be fully concreted, to support waste reception and unload operations and the storage of selected low-risk. treated, waste streams (i.e. uncontaminated packaging). Run-off from roofs and service aprons will be discharged to surface waters.

1.2.9 Bagnall Street Industrial Estate on which the facility is located forms part of a larger industrial complex which encompasses the residential area 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.

1.2.10 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.

1.2.11 There are numerous Local Wildlife Sites (LWS) within 2km of the site boundary in all directions from the site, the closest of which is Ocker Hill Balancing Pool, which lies ~925m to the north/northeast of the site.

1.2.12 The site is located within the administrative area of Sandwell Metropolitan Borough Council. The entire borough has been designated as a designated AQMA's (Air Quality Management Areas) as stated by DEFRA. Ostensibly due to high traffic density.

1.2.13 The site is located within a Nitrate Vulnerable Zone (NVZ) for surface water as designated by DEFRA.

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

1.2.15 The site is not located in a prescribed flood zone, and is in an area at very low risk from flooding. The adjacent River Tame features extensive flood barriers.

1.2.16 The bedrock geology (Etruria Formation) is classed as a 'Secondary A' aquifer. These are defined by the Environment Agency as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. There is no underlying superficial geology. In terms of groundwater vulnerability is classed as 'medium'.

1.2.17 All permitted waste activities will be undertaken upon within designated areas of the site. Access to the site for waste delivery and sorting be gained after the vehicles have been checked in and weighed. The indicative operational layout of the site is illustrated on **Drawing No. BF5094/12/02**.

1.2.18 **Table 1** summarises the potential sensitive receptors that have been identified through a desk top study of the locality and the corresponding minimum distance from the permit boundary. The locations of the receptors are shown in **Drawing No. BF5094/12/04.**

Table 1: Identified potential sensitive receptors within 1km of the facility

Receptor Name	Receptor Type	Distance / Direction From Site	Brief Description
Secondary A Bedrock aquifer – Etruria Formation	Groundwater	0m (underlies the site and surrounding areas)	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
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
River Tame	Water Course	12m W	The main river of the West Midlands and an important tributary of the River Trent.
Walsall Canal	Surface Water	130m W	Walsall Canal is a narrow canal, seven miles long which forms part of the Birmingham Canal Navigation (a network of canals connecting Birmingham, Wolverhampton and the eastern part of the Black Country)
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
Tame Valley Canal	Surface Water	600m N/NE	The Tame Valley Canal also forms part of the Birmingham Canal Navigation network.
-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
Sheepwash Local Nature Reserve	Statutory Site	715m S	Sheepwash LNR includes several pools, as well as a balancing lake for the River Tame which supports waders and wildfowl. Maturing woodland, grassland, pools and marshes provide habitat for a variety of small mammals and amphibians. Locally rare plants

Receptor Name	Receptor Type	Distance / Direction From Site	Brief Description
			such as snakeshead fritillary, cowslip and yellow bartsia have also been recorded.
Ocker Hill Balancing Pool	Non-Statutory Site	925m N/NE	Local Wildlife Site

Operational Hours

1.2.19 Waste deliveries will be restricted to between the hours of 0600hrs and 2200hrs.

1.2.20 Waste treatment operations will be carried out 24 hours a day, 7 days of the week, although operational hours may be restricted during the early stages of establishing the business unit.

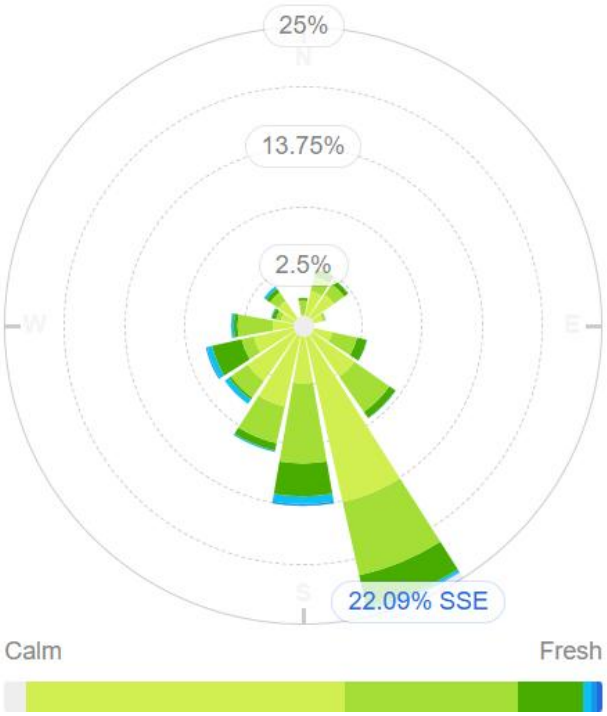
1.2.21 Maintenance of plant and equipment will be undertaken during daytime operational hours only, unless in an emergency. The EA will be notified within 24 hours should an emergency arise, and the detail/activities will be recorded within the site diary/log.

Meteorological Conditions

1.2.22 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.

1.2.23 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)



1.3 Risk Assessment

Risk Assessment Criteria

1.3.1 The risk assessment will be prepared using the widely accepted source-pathway-receptor methodology, and is the preferred method specified in the EA guidance. Where any complete source-pathway-receptor linkage exists, the magnitude of any such risk is qualified by the probability and consequence of any such risk occurring. The criteria to be adopted for the risk assessment are present in **Table 2.**

Table 2: Risk Assessment Criteria

Probability ⇨ Consequence ⇩	**Very Low**	**Low**	**Moderate**	**High**
Very Low	Negligible	Very Low	Low	Low-Moderate
Low	Very Low	Low	Low-Moderate	Moderate
Moderate	Low	Low-Moderate	Moderate	High
High	Low-Moderate	Moderate	High	Very high

1.3.2 An environmental and accident risk assessment for the waste recovery operations is presented in **Appendix 1**. The assessment covers the following potential risks;

- Fugitive emissions to air (dust and particulates);
- Odour;
- Litter;
- Mud and Debris on the road;
- Scavenging Birds, Vermin and Insects;
- Noise & Vibration;
- Fugitive emissions to water;
- Accidents; and
- Protected Habitats & Species.

APPENDICES

APPENDIX 1

EARA Matrix

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
Dust/Particulates									
Particulate matter and dusts from delivery vehicles, handling and unloading wastes/materials, including trafficked mud and debris, dust from waste storage and treatment.	Harm to human health - respiratory irritation and illness.	Air transport, deposition then inhalation.	Local human population	Low	High	**Moderate**	Most wastes will be processed, treated and / or stored inside. Wastes stored outside will be kept in containers and covered if required. Dust from the site poses very little risk to highways and roads due to the transient nature of these receptors, as members of the public are simply passing through these areas and no long-term dust exposure will occur. Dust is also unlikely to be a nuisance to these receptors due to the internalised nature of potentially dusty wastes. The closest residential properties are 160m West from the site. The prevailing wind is a Southerly, meaning they are not usually downwind of the site. Other receptors including businesses and residential areas are located up to and beyond 1km away in various direction. As such they are unlikely to be affected by fugitive dust emissions. All other nearby residential properties are located at greater distances, and less likely to be affected.	All delivery and dispatch vehicles will be fully enclosed or sheeted. Delivery vehicles and plant will fall under the European emissions classification of Euro 5 or Euro 6. A vehicle speed limit of 10mph will be imposed at the site to prevent dust suspension by vehicle wheels. Waste delivery vehicle drivers will be advised not to leave vehicles idle when engine power is not required. If required, manual or mechanical sweeping will be undertaken at the site to prevent the build-up of dusty materials on site surfaces. Most wastes will be processed, treated and / or stored inside. Wastes stored outside will be kept in containers, skips or stand trailers and covered if required. Operational staff to be trained to assess dust generation at the site throughout the working day. Further visual assessment to be carried out daily by the site manager or nominated deputy. The site surfaces, both internal and external, will comprise impermeable concrete surfacing which will be easy to clean. Good housekeeping will be implemented at all times to ensure the internal and external site areas do not have a build-up of dust and debris which could become airborne. Waste drop heights will be minimised during unloading and waste treatment to avoid dusty plumes. Any limited fugitive dust emissions from the site would likely be a coarse fraction range and would therefore tend to fall rapidly from the atmosphere (i.e. high deposition rates). Hence, airborne dust concentrations would be expected to decrease appreciably with distance from the source due to dilution within the atmosphere and deposition onto ground near the source. Resultantly, any receptors with an intervening distance from the site are unlikely to be affected. Contact information for the site and the EA as well as the permit reference number will be displayed to the public via signage at the site entrance to ensure Biffa is made aware of any off-site nuisance as soon as possible to allow mitigation measures to be actioned. Any complaints received will be recorded on a 'Dust Complaint Form'. A Dust Emissions Management Plan *(Document Ref: BF5094/10)* has been prepared and will be maintained throughout the operational period of the site.	Low
	Nuisance - dust on property, clothing etc.	Air transport then deposition	Local human population	Low	Moderate	**Low-Moderate**			Very Low
	Smothering of habitats and crops	Air transport then deposition	Local wildlife habitats/ species	Low	Moderate	**Low-Moderate**	Most wastes will be processed, treated and / or stored inside. Wastes stored outside will be kept in containers, skips or stand trailers and covered if required. The area is a busy commercial / industrial area located within a city. The level of emissions from the site are not considered high enough to have a notable impact. Other than the river tame and Walsall Canal (both of which are engineered watercourses), there are limited habitats within a short distance. The nearest LNR is >700m away. As the limited fugitive dust emissions from the site would be a coarse fraction range, which fall rapidly from the atmosphere, it is considered unlikely that the LNR would be affected.		Very Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Odours									
Fugitive odours from delivery and dispatch of wastes/materials Fugitive odours from waste unloading and handling. Fugitive odour emissions from waste storage Fugitive odours during waste treatment and repackaging. Fugitive odour release during an abnormal event such as a spill or leak	Nuisance, loss of amenity	Air transport then inhalation.	Local human population	Moderate	Moderate	**Moderate**	Most wastes will be processed, treated and / or stored inside. Wastes stored outside will be kept in containers and covered if required. Potentially odorous wastes will be permitted and accepted at the facility. Malodorous wastes will be rejected from the site upon delivery. The closest residential properties are ~160m West from the site. The prevailing wind is a Southerly, meaning they are not usually downwind of the site. Other receptors including schools and care homes are located over 400m away in various direction. As such they are unlikely to be affected by fugitive dust emissions. All other nearby residential properties are located at greater distances, and less likely to be affected. Receptors such as public highways and private roads are unlikely to be affected by odours due to their transient nature. Commercial and industrial premises lie adjacent north, east and west, but are unlikely to be affected unless odours are very significant.	Waste delivery vehicles will be fully enclosed or sheeted to minimise the risk of fugitive release of odour. Waste Pre-acceptance and acceptance checks will be conducted to ensure the waste is compliant and acceptable. Malodorous waste will not be accepted. Wastes with a significant potential to generate odours will be processed, treated and / or stored inside. Wastes stored outside will be kept in containers, skips or stand trailers and covered if required. The internal storage of waste will limit the amount of heating experienced. Heating of potentially odorous or putrescible waste and waste containing VOC's and SVOC's is a key factor in odour generation. Waste will be processed in batches meaning incoming waste streams are not opened for very long prior to treatment, and resultant fractions are not kept onsite for long periods. Good housekeeping measures will be implemented to ensure that there is no build-up of waste residues which could become malodorous. Equipment used in waste processing will be cleaned after use to remove any residual waste. Following waste dispatch, empty storage bays will be cleaned thoroughly prior to the next delivery of waste to the site. Daily inspections of the site conditions and odour monitoring will be carried out to ensure that any issues are identified as soon as possible and mitigation measures can be implemented. Operational staff will also be trained to assess any odour generation at the site throughout the working day and will alert the site operations manager or nominated deputy who will investigate the issue and take corrective action. Contact information for the site and the EA as well as the permit reference number will be displayed to the public via signage at the site entrance to ensure Biffa is made aware of any off-site nuisance as soon as possible to allow mitigation measures to be actioned. Any complaints received will be recorded on an 'Odour Complaint Form'. An Odour Management Plan (OMP) (*Doc Ref.: BF5094/11*) has been prepared and will be maintained throughout the operational period of the site.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Litter									
Litter from waste delivery vehicles Litter from waste stored on site Litter from the welfare and office facilities	Nuisance, loss of amenity, road traffic accidents and harm to animal health	Vehicles entering and leaving site. Air transport and then deposition	Local human population, livestock and wildlife. Local road users. *(All Receptors)*	Low	Moderate	**Low**	Most wastes will be processed, treated and / or stored inside. Wastes stored outside will be kept in containers, skips or stand trailers and covered if required. Waste types permitted at the site are unlikely to generate litter. Delivery and dispatch vehicles to be fully enclosed or sheeted. The site has extensive security and privacy fencing which will capture most windblown litter. The site features a sealed drainage system.	All waste delivery and dispatch vehicles will be fully enclosed or sheeted. All wastes will be inspected upon delivery to the site to ensure contaminated wastes are not accepted. All vehicles to be inspected prior to leaving site. Most wastes will be processed, treated and / or stored inside. Wastes stored outside will be kept in containers, skips or stand trailers and covered if required. The high level of containment at the site will significantly reduce the risk of any litter from escaping. Due to the containment of the internal operations, adverse weather conditions such as high winds will not affect the site operations or increase the risk of litter dispersion. The site offices and welfare facilities will have plenty of rubbish bins for site staff to dispose of their waste in. Regular cleaning will also be undertaken in these areas which will ensure litter is not present which may escape from the building. The site has extensive security fencing. Litter caught in the fencing will be removed. In the unlikely event that these screens fail to capture any windblown litter, litter picking will be conducted within 24 hours. Daily inspections of the site will be conducted which will include inspections for evidence of mud, debris and litter on the site surfaces. Operational staff will also be trained to observe any evidence of such emissions and the site manager or nominated deputy will be alerted. They will then investigate the issue and action the appropriate remedial measures. When required, manual or mechanical sweeping will be implemented to remove mud and debris deposited on site surfaces. Litter picking will be conducted at the site upon signs of litter generation. The source of any litter will also be investigated and remediated. Good housekeeping will be employed at the site to ensure there is not a build-up of waste residue or litter within the WTS building or the external areas.	Very Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Mud and Debris									
Waste debris and mud on local roads Tracking of mud and debris onto public roads causing accident, hazards and nuisance to road users.	Nuisance, loss of amenity, road traffic accidents and harm to animal health	Vehicles entering and leaving site.	Local human population, livestock and wildlife. Road users *(All Receptors)*	Low	Low	**Low-Moderate**	Wastes will be treated and stored within the engineered surface and drainage system. Internal and external site surfaces comprise impermeable concrete surfacing which will be easy to clean. The surrounding area is mostly commercial and industrial and likely experiences a high volume of similar traffic.	All waste delivery vehicles will be fully enclosed or sheeted. All waste delivery vehicles will be inspected prior to entering and leaving the site. The unloading of wastes will only occur within the confines of the site and fencing. This containment will minimize the risk of mud, debris, litter, dust and odours being released or tracked around the site and minimize any pollution risks to receptors. When needed, manual or mechanical sweeping will be utilised to prevent the build-up of mud or debris on site surfaces. This will prevent vehicles tracking mud and debris onto public highways and private roads. The internal and external site surfaces comprise impermeable concrete surfacing which is easy to clean and will minimise the tracking of mud and debris onto public roads. Daily site inspections will be conducted to ensure any issues are identified as soon as possible to allow remediation to be implemented. The access road will also be inspected to ensure no fugitive mud or debris emissions are causing nuisance. Site operational staff will be trained to observe any evidence of mud and debris on site surfaces and alert the site manager or nominated deputy immediately. An investigation into the source will be carried out and mitigation measures actioned. Good housekeeping will be implemented at the site to ensure there is not build up of waste mud and debris within the WTS building or the external site areas.	Very Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Scavengers, Insects and Other Pests									
Scavenging animals and scavenging birds, Pests (e.g. flies) attracted to or infesting wastes	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity. Negative effects on habitats and crops	Air transport and over land.	Local human population, crops and local habitats. *(All receptors)*	**High**	Moderate	**Moderate**	Limited putrescible wastes will be accepted onsite. Food will not be removed from its primary packaging. Waste which has the potential to attract limited scavengers and pests will be processed, treated and stored inside the main processing building. The site is located in a commercial and industrial area.	Waste delivery vehicles will be fully enclosed or sheeted. Waste deliveries will be inspected upon delivery to the site. Infested loads will be rejected. Waste unloading, handling, treatment and loading will be conducted within the site. Good housekeeping will be implemented at the site to ensure there is not build up of waste residue within the buildings or the external site areas which could attract scavengers and pests. Where required, manual or mechanical sweeping will be carried out to ensure site surfaces are clean. Waste will be processed in batches meaning those removed from their initial packaging, and subsequent fractions will only be on site for a short amount of time. In the unlikely event that a waste store becomes infested with insects, insecticides will be used, and the waste will be transferred off site as soon as possible. If a stockpile becomes infested with scavengers, a pest control contractor will be deployed, and the waste will be transferred off site as soon as possible. These measures will be actioned quickly to reduce the risk of an infestation spreading to other waste stockpiles. Daily inspections of the site will be carried out and the results will be recorded. Site staff will also be trained to recognise and alert the site manager or nominated deputy of any suspected pest infestations. This enables any issues to be identified quickly and allow further investigation and remediation to take place. Should insects posing a nuisance be observed at site, insecticides offering rapid knock-down and long-term treatment shall be utilised. A specialist contractor shall inspect the facility weekly during the summer months and at appropriate frequencies at other times. In the event that the daily site inspections or the observations of operational staff find evidence of the presence of scavengers such as rats and other pests, a specialist contractor will be called to attend the site for pest control. A record of all incidents will be recorded in the site diary.	Low
Noise & Vibration									
Noise and vibration caused by engine noise and vibrations from site plant and equipment, lorry movements etc.	Nuisance, loss of amenity, loss of sleep or harm.	Noise through the air and vibration through the ground.	Local human population	Low	Moderate	**Low-Moderate**	The closest residential properties are ~160m West from the site. Other receptors including businesses and residential aware are located up to and beyond 1km away in various directions. The area around the site is primarily commercial and industrial, meaning any noise generated onsite is unlikely to impact the existing baseline. All other nearby residential properties are located at greater distances, and less likely to be affected. The majority of operations will take place within the enclosed buildings.	Waste storage and treatment will be conducted within the enclosed buildings. Speed limit of 10mph to be implemented at the site. Internal roads and surfaces will also be maintained and kept free of ruts and potholes to minimise body slap. All plant and equipment used on site will be operated / maintained in accordance with manufacturer recommendations. Waste treatment will be either within equipment or manual de packaging, meaning the noise generating potential is lower. Noise levels will be monitored daily by site operations manager (or nominated deputy) to ensure that operations are not resulting in significant levels of noise beyond the site boundary.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Water									
Generation of contaminated run-off and leachate from wastes and other hazardous substances handled on site (e.g. fuels, oils etc).	Harm to protected site through nutrient enrichment, leachate, contaminated surface water runoff	Surface water run-off, and sub-surface transport of leachates then base and spring flows to rivers.	Groundwater, surface water bodies and their associated habitats.	Low	Moderate	**Low-Moderate**	The processes for items with the potential to generate leachate (Principally alcohols and cosmetics) will be conducted within an enclosed building. Waste will remain packaged until treatment, the primary purpose of which is to drain liquids. As such, no leachate will be free to escape. The internal and external site area comprise impermeable concrete surfacing. All service aprons feature a sealed drainage system.	Waste storage and treatment for wastes with the potential to generate leachate will be conducted within the alcohol and cosmetics processing buildings. This features impermeable concrete surfacing, with a sealed drainage system that drains to a sump. This level of containment will significantly reduce the risk of contaminated run-off from entering the off-site surface water network. The external site areas also comprise impermeable concrete surfacing and uncontaminated surface water runoff will be directed to the nearby surface water course ~~attenuation pond~~.	Very Low
Flooding of the site	Contamination of buildings, gardens, agricultural land, natural habitats etc downstream resulting from waste washed off-site.	Flood waters	Local human population, crops and local habitats. *(All receptors)*	Very Low	Moderate	**Low**	Upon review of the Environment Agency flood risk map, the site lies within a Flood Zone 1 (annual flood probability of less than 0.1%; low risk). Therefore, the site is not at risk of flooding. Hazardous wastes will remain packaged until treated, and are in forms unlikely to be affected by flooding.	Hazardous waste will be stored according to the relevant appropriate measures (Chemical Wastes, WEEE). This will ensure that the waste is not exposed to the elements, including floodwater, and minimizes the risk of damage causing a containment breach. Daily inspections of the site will be conducted which will include inspections for damage to sealed containers. Operational staff will also be trained to observe any evidence of leaks or damage, and the site manager or nominated deputy will be alerted. They will then investigate the issue and action the appropriate remedial measures.	Very Low
Exposure to hazards or emissions									
VOC (Volatile Organic Compounds) or vapour exposure	Inhalation by staff or nearby receptors.	Air or leachate	Local human population, nearby water bodies.	Low	Moderate	**Low**	The site handles wastes with significant VOC content including alcohol, vapes and WEEE. Vapes / WEEE will be treated within enclosed plant with a controlled atmosphere, meaning there will be no release of VOCs to atmosphere. Alcohol and cosmetics will be processed in a separate building, which will be designated an ATEX zone. Alcohol and cosmetics will be sprayed with water during processing to minimise emissions and aid with drainage and fire suppression. Most WEEE (Excluding vapes) will not be treated onsite beyond the removal of batteries.	Hazardous waste will be stored internally in palletised form. This will ensure that the waste is not exposed to the elements, including floodwater, and minimizes the risk of damage causing a containment breach. Daily inspections of the site will be conducted which will include inspections for damage to the waste packaging. Operational staff will also be trained to observe any evidence of leaks or damage, and the site manager or nominated deputy will be alerted. They will then investigate the issue and action the appropriate remedial measures.	Very Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Accidents									
On site hazards: wastes, machinery, vehicles,.	Bodily injury	Direct physical contact	Local human population	Low	High	**Moderate**	The site is fully secured. Waste operations are carried out only within the site boundary.	Due to the nature of the wastes processed, the site will have significant security measures including CCTV, patrols, fencing, double gates and 'airport style' security. All site staff and visitors will receive an induction to the site to ensure safety protocols are adhered to. All site staff will receive thorough training on the site safety procedures and the use of the plant and equipment on site. Refresher courses will be provided as required. Appropriate personal protective equipment (PPE) will be provided for all site staff, particularly those handling waste. Designated pedestrian routes are clearly marked around the site.	Low
Fire resulting from arson/vandalism or an accident causing the release of polluting materials (smoke or fumes) to air, water or land.	Bodily injury	Direct physical contact	Local human population	Very Low	Moderate	**Low**	Both combustible and non-combustible waste will be accepted at the site. WEEE including batteries will be accepted. Vapes containing Lithium-Ion cells will be destroyed onsite. Hazardous and Non-hazardous alcohol and cosmetics are repackaged onsite. The site will accept hazardous wastes. The site is fully secured with a comprehensive security system. Waste operations are carried out only within the site boundary.	The facility will operate in accordance with the Fire Prevention Plan *(Doc Ref: BF5094/9)* which provides an assessment of the site with the aim of fighting fires, preventing them spreading, and minimizing the likelihood of them occurring. This will be reviewed and updated as required. No fires are permitted on site. There is a dedicated smoking shelter and smoking will not be permitted in any other location on site. Alcohol and cosmetics (including hazardous types) will be stored palletised within the alcohol / cosmetics processing building, with access allowed to one side at all times. Depackaged alcohol and cosmetics will be shredded / baled in separate batches and stored within a bunded tank farm according to their type Waste unloading, handling, treatment and loading will be conducted within the site boundary. All treatment equipment that poses a fire risk will have fire monitoring and suppression built in. Vapes are destroyed by hammer mill in a controlled atmosphere (Nitrogen blanket) which minimizes the risk of combustion. The site is surrounded by fencing and double gated with controlled access including 'airport style' security. Signs are present at the site entrance and along the perimeter to deter trespassers. Plant and equipment will be operated and regularly maintained in line with manufacturers recommendations. Plant and equipment will be inspected daily as part of the site checks. In the event any damage is observed, it will be recorded and reported to the site manager or nominated deputy. Any repairs will be affected as soon as possible or within 5 working days (subject to replacement material availability). Mitigation measures will be undertaken immediately if there is a possibility for ignition. Nitrous oxide canisters will be stored separately from other wastes within the main processing building.	Very Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
								An external fire quarantine area has been identified which is capable of holding at least 50% of the largest combustible waste storage area on site, in line with guidance. Site staff will be trained in the fire protocols, including the locations and use of firefighting equipment, emergency exits, emergency contacts and the fire assembly point. An Incident Management Plan (IMP) will be made available to staff. Firefighting equipment at the site will be clearly marked and tested, at appropriate intervals, to confirm their suitability and functionality. Access routes will remain clear to ensure fast access for emergency services vehicles. Records of all incidents will be kept on site together with the remedial action taken. WEEE will be stored in separate containers. Batteries will also be stored with secondary containment.	
Leaks and Spillages from on-site plant/vehicles, waste or contaminated rainwater runoff (including firewater).	Deterioration of water quality, contamination of ground/surface waters,	Direct run off from site across ground surface, indirect runoff via the soil layer or transport through soil/groundwater	Groundwater, surface water bodies and their associated habitats.	Moderate	Moderate	**Moderate**	The site will accept wastes which have the potential to leak or spill. The site surface water collection networks discharge to a sump.	All alcohol and cosmetic wastes will be handled on an impermeable surface and be stored in a building which consists of impermeable concrete pavement with a sealed drainage system. All vehicles delivering and dispatching wastes will be sheeted or fully enclosed. Spills kits will be strategically positioned around the site. External yard and haulage routes consist of impermeable concrete pavement. A penstock valve is fitted at the surface water discharge point, which can be shut-off in the event of a large spill or fire. The condition of the site surfacing and penstock valve will be inspected daily. The drainage network will be inspected/surveyed every five years, or sooner if issues with the network are identified. Any repairs will be undertaken as soon as reasonably practicable.	Low
Abnormal Conditions									
Containment Damage	Harm to human health - respiratory irritation and illness. Nuisance – dust, olfactory, and noise emissions Contamination of surrounding land, groundwater and surface water.	Air transport then deposit or inhalation, direct run off	Local human population, crops and local habitats. *(All receptors)*	Low	Moderate	**Low-moderate**	The site will deal with hazardous wastes that may contain toxic chemicals. Wastes which have the potential to release pollutants will be processed, treated and stored inside unless neutralised. Wastes stored outside will be kept in containers and covered if required. An impermeable concrete surface and sealed drainage system is also present for both areas.	Waste delivery vehicles will be fully enclosed or covered. The sealed drainage system will be regularly inspected to ensure there are no issues or loss of containment. In the event an issue is found with the sealed drainage system, repairs will be carried out as soon as practicable. The site internal and external impermeable concrete surfaces will be inspected daily to ensure there is no damage. Any required repairs will be done as soon as practicable. In the event that an issue with the containment measures at the site arises, and results in a spill / leak of waste, mitigation and control measures will be taken. The procedures for a spills / leaks are outlined above and will be followed.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Power loss	Harm to human health and local habitats and surface water via fugitive emissions Nuisance to local human receptors via fugitive emissions	Airborne transport	Local human population, crops and local habitats. *(All receptors)*	Very Low	Moderate	**Low**	The site processes hazardous wastes using equipment that is vulnerable to power loss.	If power / water is lost for a sufficiently long period of time where it has the potential to affect ancillary functions outside of the main operations, then alternative means of power generation/water supply will be sought. The Nitrous destruction unit features a UPS (Uninterruptable Power Supply) which will engage immediately if mains power is lost.	Very low
Vandalism and security breach	Bodily injury	Direct physical contact	Local human population	Low	Moderate	**Low-Moderate**	Due to the nature of the wastes accepted onsite, there are comprehensive security measures in place including fencing, lighting, double gated controlled access, and 'airport style' security. Waste operations are carried out only within the site boundary	The site is surrounded by security fencing The double gated entrance will be locked at all times. CCTV with significant overlapping will be installed onsite. Out of hours monitoring and patrols will also be implemented for security and early fire detection. Signs will be installed on the perimeter fencing and gates to alert potential trespassers or vandals of the presence of CCTV and security in order to deter their illegal entrance to the site. Site security infrastructure will be inspected daily as part of the daily site inspection. Any damage will be recorded on the check sheet and will be reported to the site operations manager or nominated deputy. Any damage to the integrity of the boundary, gates or any other security structure, where practicable, will be repaired by the end of the working day. If it is not possible to make repairs within a working day, temporary repair measures will be implemented. Final repairs will be carried out within 7 working days of the damage being detected or any other such period as agreed in writing with the EA. All damage and repairs (temporary or permanent) are to be recorded in the Site Diary. All visitors to the site (including personnel) must report to the site office for an induction, and to sign in and sign out on exit.	Very Low
Operator error	Bodily injury Harm to human health - respiratory irritation and illness. Nuisance – dust, olfactory, and noise emissions Contamination of surrounding land, groundwater and surface water.	Direct physical, air transport then deposit or inhalation, direct run off	Local human population, crops and local habitats. *(All receptors)*	Low	High	**Moderate**	Treatment will largely be manual and only plant assisted when necessary.	Technically competent people oversee the management of activities at the site, in accordance with the fit and proper person requirements. Training (including refresher training) will be given to all site staff on the environmental permit, health and safety and incident response procedures. Site staff will be trained on site equipment/plant prior to first use and supervised by a technically competent person. Employment of Biffa's Standard Operating Procedures (SOPs) developed in accordance with published Best Practice and Health and Safety Executive Guidance.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Cross-connected drains	Deterioration of water quality, contamination of ground/surface waters,	Direct run off from site across ground surface, indirect runoff via the soil layer or transport through soil/groundwater	Groundwater, surface water bodies and their associated habitats.	Low	Moderate	**Low-Moderate**	The existing drainage system at the site is being repaired and upgraded in conjunction with the construction of new elements.	Suitably qualified engineers will ensure that all drains are installed to approved designs.	Very Low
Emissions from plant or equipment due to abnormal conditions	Harm to human health - respiratory irritation and illness.	Air transport, deposition then inhalation.	Local human population	Low	High	**Moderate**	Waste will be handles with plant and manually. Electric plant and equipment will be used on-site, with combustion equipment only used where no alternative is available.	All machinery used on site will be operated and maintained in accordance with manufacturers' recommendations. Electric plant and equipment will be used on-site, with combustion equipment only used where no alternative is available All operational areas will be underlain with an impermeable concrete surfacing as is appropriate to the environmental risk posed by that part of the overall operation. All machinery will undergo regular checks and maintenance in line with manufacturers recommendations. All plant and equipment will be inspected for damage / leaks before and after use as part of daily operation and maintenance checks. Any damage will be recorded on a check sheet and reported to the site operations manager or nominated deputy. Any plant or equipment identified as being defective will be removed for active use and repaired as soon as possible.	Low
Inadequate waste acceptance procedures	Harm to human health - respiratory irritation and illness. Bodily harm Nuisance (e.g. dust for non-compliant particularly dusty waste loads)	Transported by vehicle	Site operatives and site users	Low	Moderate	**Low-Moderate**	The site accepts very specific waste streams which will inherently require a higher level of documentation and be better characterised prior to delivery.	All wastes will undergo stringent pre-acceptance procedures in accordance with Biffa's Standard Operating Procedures (SOPs) which are informed by relevant Duty of Care Requirements and Health and Safety Executive Guidance. All site staff, particularly the site manager and TCM, will have knowledge of the Environmental Permit and on the types of waste accepted and prohibited at the site. Accompanying paperwork will be reviewed to ensure the details are correct and that all fields are completed. All waste loads will be visually inspected during external unloading. Any non-conforming wastes will be identified by the site operatives. This will either be re-loaded onto the delivery vehicle for immediate transfer off site, or where this is not possible the waste will be placed into quarantine containers and the transfer of this waste to an appropriate facility will be organised as soon as possible.	

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Protected Species and Habitats									
On site activities	Harm to a protected site through contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Protected species and habitats	Low	Moderate	**Moderate**	All wastes will be handled within the site will within the impermeable pavement and a sealed drainage system. There is one LNR located >700m away. There are no sites designated as Special Area of Conservation (SAC), Special Protection Areas (SPA`s), RAMSAR sites, Sites of Special Scientific Interest (SSSI) or National Nature Reserves (NNR) within 2km of the site.	Waste delivery vehicles will be fully sheeted or enclosed. Wastes which have the potential to release pollutants will be processed, treated and stored inside. Wastes stored outside will be kept in containers and covered if required. An impermeable concrete surface and sealed drainage system is also present for both areas. The mitigation and control measures for the site to prevent fugitive emissions which could affect species and habitats have been outline previously in this risk assessment.	Low