



## REPORT

# Biffa Waste Services Ltd

## *Accident Risk Assessment and Management Plan*

Submitted to:

### **Biffa Waste Services Ltd**

Coronation Road  
Cressex  
High Wycombe  
Buckinghamshire  
HP12 3TZ

Submitted by:

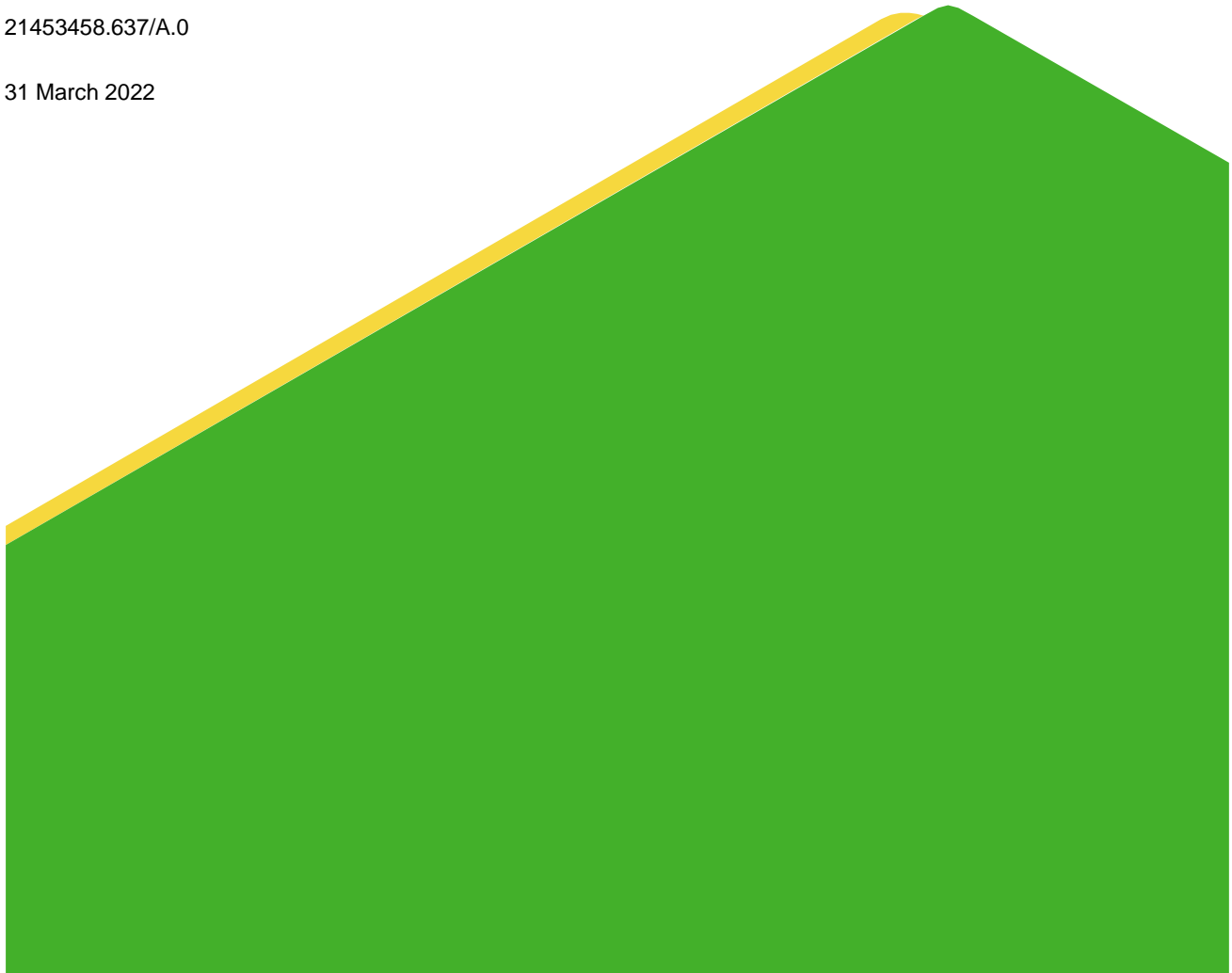
### **Golder WSP**

Attenborough House, Browns Lane Business Park, Stanton-on-the-Wolds,  
Nottingham, NG12 5BL, UK

+44 0 115 937 1111

21453458.637/A.0

31 March 2022



## Distribution List

Biffa Waste Services Ltd - 1 copy (pdf only)

Golder, member of WSP in UK - 1 copy (pdf only)

Peterborough County Council - 1 copy (pdf)

Environment Agency - 1 copy (pdf)

# Table of Contents

<b>1.0 INTRODUCTION .....</b>	<b>1</b>
1.1 General.....	1
1.2 Site Location and Setting .....	1
1.3 Site Operations .....	2
1.4 Responsibility .....	2
1.5 Training .....	3
<b>2.0 ACCIDENT MANAGEMENT PLAN .....</b>	<b>3</b>
2.1 Report Context.....	3
2.2 Methodology.....	3
2.3 Accident Management Procedure.....	5
 <b>TABLES</b>	
Table AMP1: Likelihood of Accident Occurring .....	4
Table AMP2: Severity of Consequence.....	4
Table AMP3: Overall Risk.....	5
Table AMP4: Risk Categories .....	5
Table AMP5: Risk Assessment .....	6

## 1.0 INTRODUCTION

### 1.1 General

Biffa Waste Services Ltd (Biffa) has requested that Golder, member of WSP in UK (Golder), prepares an Accident Risk Assessment and Management Plan (AMP) for proposed development of an Eastern Extension at Eye Landfill, Eyebury Road, Eye, Peterborough, Cambridgeshire, PE6 7TH.

Biffa proposes to submit a planning application and Environmental Permit variation application to develop the existing operations, as follows:

- Develop parts of Willow Hall Farm Quarry and Inert Landfill as a non-hazardous landfill (to be called the Eastern Extension) for continuous and uninterrupted landfilling operations after the current Southern Extension at Eye Landfill is completed.
- Replace the existing and now old Site Reception at Eye Landfill with a new Site Reception in an adjacent location. The new Site Reception will be similar and will have car park, office, welfare, weighbridge, wheelwash, car park and leachate storage tank facilities. Biffa will decommission and remove the old facilities.
- Re-route the internal haul road, so it passes from the new Site Reception around the west and north of the existing Recycling Shed by improving an old haul route originally used in the 1980s/1990s and passes along the southern edge of the Central Area.
- Create a new crossing over the Cat's Water Drain at the southeast corner of the Central Area to serve the Eastern Extension; and
- Extend pipework so that infrastructure currently used for the management of leachate and landfill gas can also serve the Eastern Extension.

This AMP is provided to accompany an assessment of impacts from Major Accidents and Disasters as part of the planning application (Chapter ES14), and to also accompany the Environmental Permit variation application. A Nuisance and Health Management Plan will also accompany the planning application and Environmental Permit variation application for the development proposal.

### 1.2 Site Location and Setting

The Eastern Extension is approximately 1.1 km southeast of the village of Eye and 2.3 km east of Peterborough. It is in a predominantly rural area, surrounded by agricultural fields and isolated dwellings. The A47 road is 1,150 m to the north, Eyebury Road is 1,400 m to the west, Oxney Road is 400 m to the southwest (of the Site Reception) and Willow Hall Lane passes down the eastern boundary.

Pode Hole Quarry is a sand and gravel quarry (operated by Aggregate Industries) to the north which is (at its closest point) adjacent to the site but also extends northeast to the A47 road. Different parts of the quarry are connected via an internal road that extends under Willow Hall Lane.

Pasture House Farm Quarry is another sand and gravel quarry (operated by Land Logical Group) about 1,000 m to the northeast adjacent to the A47 road and accessed from Willow Hall Lane.

The Cat's Water Drain flows north to south and forms the boundary between Eye Landfill and Willow Hall Farm Quarry and Inert Landfill. It is a natural watercourse which has been canalised adjacent and downstream of the sites. There is an agricultural reservoir and other surface water features 500 m to the southeast.

Access to the Site is obtained from Eyebury Road via the existing 700 m long entrance road leading to the Site Reception. The access junction is purpose-built for the landfill and the parameters and junction radii cater for the swept-path requirements of Heavy Commercial Vehicles (HCVs). The entrance road is surfaced in concrete with signage and traffic calming measures.

### 1.3 Site Operations

Mineral extraction from Willow Hall Farm Quarry will continue in accordance with existing permissions and requirements.

The disposal of non-hazardous waste will take place in accordance with an Environmental Permit that will include the Northeastern Extension, Southern Extension and Eastern Extension. The activities listed in Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2016 (EP Regulations) will be:

- Section 5.2 Part A(1)(a). Landfill for non-hazardous waste and landfill restoration;
- Section 5.2 Part A(1)(a). Landfill for hazardous waste (not applicable to Eastern Extension);
- Section 5.4 Part A(1)(a)(i). Storage and treatment of leachate via Miscanthus Beds in a facility with a capacity >50 tonnes/day (not applicable to Eastern Extension); plus
- Pre-treatment and utilisation of landfill gas for energy recovery;
- Temporary storage and pre-treatment of leachate (lagoons);
- Flaring of landfill gas;
- Discharge of pre-treated leachate to sewer;
- Discharge of site drainage;
- Storage of fuel for plant and equipment;
- Storage of raw materials, oils and antifreeze in bulk storage tanks;
- Production and storage of waste oils; and
- Use of wastes for restoration.

### 1.4 Responsibility

In accordance with the Environmental Permit, Biffa shall manage and operate the activities:

- In accordance with a written management system that identifies and minimizes risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, and those drawn to the attention of the Biffa as a result of complaints;
- Using sufficient competent persons and resources; and
- Biffa shall comply with the requirements of an approved competence scheme.

It is the responsibility of the Site Manager, his deputy and any 'Authorised Person' to implement these procedures. An 'Authorised Person' must be suitably competent and working under authority of the Site Manager.

## 1.5 Training

The Site Manager will ensure that all personnel engaged in these activities are aware of these procedures and are fully trained and competent in these procedures.

## 2.0 ACCIDENT MANAGEMENT PLAN

### 2.1 Report Context

The AMP recognises that the Eastern Extension deals with non-hazardous waste and sets out the control measures that will be utilised at the Site to minimise the likelihood of accidents and to minimise harm to human health, the environment and infrastructure/equipment in accordance with indicative Best Available Techniques (BAT).

### 2.2 Methodology

The AMP has been developed in accordance with Environment Agency guidance<sup>1</sup> '*Risk assessments for your environmental permit, 'develop a management system: environmental permits'*' and '*controlling and monitor your emissions for an environmental permit*', see **Table AMP1** to **Table AMP4**.

For each potential hazard, the assessment addresses the following points in **Table AMP5**:

- Identifying the hazard, pathway and receptor:
  - Identifying potential sources (agents or process) with the potential to cause harm;
  - Identification of potential receptors for protection;
  - Identifying potential harmful consequences; and
  - Identifying potential pathways by which the receptor may come into contact with the source.
- Assessing the risk:
  - The likelihood of accident occurring;
  - The severity of the consequence; and
  - The overall magnitude of the risk.
- Managing the risk:
  - Risk management.

An assessment of proposed prevention and mitigation measures is also undertaken for each potential accident scenario. Mitigation measures including techniques, maintenance, training and other preventative measures to be undertaken are also noted.

The likelihood and severity categories that have been used in the assessment in **Table AMP5** of each potential hazard are explained in **Table AMP1** and **Table AMP2** below.

---

<sup>1</sup> [www.gov.uk/guidance](http://www.gov.uk/guidance)

**Table AMP1: Likelihood of Accident Occurring**

	Category	Definition
1	Extremely unlikely	Incident occurs less than once in a million years.
2	Very unlikely	Incident occurs between once per million and once every 10,000 years.
3	Unlikely	Incident occurs between once per 10,000 years and once every 100 years.
4	Somewhat unlikely	Incident occurs between once per hundred years and once every 10 years.
5	Fairly probable	Incident occurs between once per 10 years and once per year.
6	Probable	Incident occurs at least once per year.

**Table AMP2: Severity of Consequence**

	Category	Definition
1	Minor	Nuisance on-site only (no off-site effects); and No outside complaint.
2	Noticeable	Noticeable nuisance off-site, e.g. discernible odour; Minor breach of permitted emission limits but no environmental harm; and One or two complaints from public.
3	Significant	Severe and sustained nuisance, e.g. strong, offensive odours or noise disturbance; Major breach of permitted emission limits; and Numerous public complaints.
4	Severe	Hospital treatment required; Public warning and off-site emergency plan invoked; and Hazardous substance release into watercourse with 0.5 mile (0.8 km) effect.
5	Major	Evacuation of local populace; Temporary disabling and hospitalisation; Serious toxic effect on beneficial or protected species; Widespread but not persistent damage to land; and Significant fish kill over 5 mile (8 km) range.
6	Catastrophic	Major airborne release with serious off-site effects; Site shutdown; and Serious contamination of groundwater or watercourse with extensive loss of aquatic life.

Each of the potential accidents identified in **Table AMP5** have been assigned a likelihood and severity from the tables above, giving due consideration to the nature, scale and location of the accident with regard to the potential receptors and control measures that will be used at the Site. The likelihood and severity are carried forward to the matrix presented in **Table AMP3** to generate an overall risk.

**Table AMP3: Overall Risk**

Likelihood	Severity of Consequence					
	Minor	Noticeable	Significant	Severe	Major	Catastrophic
Extremely unlikely	1	2	3	4	5	6
Very unlikely	2	4	6	8	10	12
Unlikely	3	6	9	12	15	18
Somewhat unlikely	4	8	12	16	20	24
Fairly probable	5	10	15	20	25	30
Probable	6	12	18	24	30	36

The score generated from **Table AMP3** is carried forward to **Table AMP4** below, which assigns a risk category to the potential accident.

**Table AMP4: Risk Categories**

Magnitude of Risk	Score
Insignificant	6 or less
Acceptable	8 to 12
Unacceptable	15 or more

## 2.3 Accident Management Procedure

Under the Biffa Group Integrated Management System (GIMS) each site maintains an Emergency Plan that includes a procedure that covers accidents and emergency situations at the Site including:

- Fires;
- Spills;
- Physical damage;
- Incendiary devices; and
- Flooding.



Table AMP5: Risk Assessment

Identifying the Hazard, Pathway and Receptor				Assessing and Managing the Risk			
Hazard	Receptor	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Risk Management
<b>PROCEDURAL HAZARD</b>							
Waste acceptance failure.	Local human, livestock and wildlife populations and local environment.	Receipt of unauthorised or incompatible wastes.  Release of particulate matter (dusts).	Water courses, air.	Fairly probable.	Minor.	Insignificant.	Acceptance procedures are in place.  Isolation of unacceptable waste and removal from site.
Waste, litter and mud on roads and beyond cell boundaries	Local human population, drivers	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving Site.	Fairly probable.	Noticeable.	Acceptable.	Operational procedures are in place for vehicle covering, housekeeping, site cleanliness, wheel washing  The operator will collect litter arising from activities from affected areas outside the cell and permit boundaries.  Use of complaint procedures.

Identifying the Hazard, Pathway and Receptor				Assessing and Managing the Risk			
Flooding of Site due to heavy rainfall.	Local human population and local environment.	Waste washed off-Site may contaminate buildings, natural habitats, and gardens.	Flood waters.	Somewhat unlikely.	Significant.	Acceptable.	Operational procedures are in place for management of ditches and drains.  EMS procedure for emergencies.
Odour.	Local human population.	Nuisance, loss of amenity.	Air (wind) then inhalation.	Fairly probable.	Noticeable.	Acceptable.	Operational procedures are in place.  See Nuisance and Health Management Plan.
Noise.	Local human population.	Nuisance, loss of amenity, loss of sleep (day time).	Air.	Fairly probable.	Noticeable.	Acceptable	Operational procedures are in place.  See Nuisance and Health Management Plan.
Scavenging animals and scavenging birds.	Local human population.	Harm to human health from waste carried off-Site and faeces; nuisance and loss of amenity.	Air (wind) and over land.	Fairly probable.	Noticeable.	Acceptable.	Operational procedures are in place. Procedures to manage scavenging birds and animals.

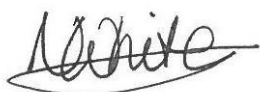
Identifying the Hazard, Pathway and Receptor				Assessing and Managing the Risk			
							See Nuisance and Health Management Plan.
Pests (e.g. flies/vermin).	Local human population.	Harm to human health from waste carried off Site and faeces; nuisance, and loss of amenity.	Air (wind) and over land.	Fairly probable.	Noticeable.	Acceptable.	Operational procedures are in place. Procedures to manage and control pests.  See Nuisance and Health Management Plan.
Fuel and oil Storage Failure.	Local human, livestock, and wildlife population.	Potential contamination of land, groundwater and surface water.	Water courses, migration through unsaturated zone.	Fairly probable.	Noticeable.	Acceptable.	Secure enclosed storage; regular visual inspection of tanks and infrastructure; maintenance procedures.
<b>STRUCTURAL HAZARDS</b>							
Overfilling of Cells.	Local human, livestock and wildlife populations.	Escape of wastes beyond limits of controls systems with potential contamination of land, groundwater and surface water.	Water course, migration through unsaturated zone, air (wind) and over land.	Fairly probable.	Noticeable.	Acceptable.	Annual surveys and inspections for pre-settlement, pre-restoration levels.

Identifying the Hazard, Pathway and Receptor				Assessing and Managing the Risk			
		Nuisance, loss of amenity and harm to animal health.					
Structural failure of waste and landfill engineering.	Loss of containment, damage to leachate and gas infrastructure	Potential contamination of land, groundwater and surface water.  Nuisance, loss of amenity and harm to animal health.	Water course; migration through unsaturated zone; and air (wind) transport.	Unlikely.	Significant.	Acceptable.	Stability Risk Assessment and controls.  CQA of engineering.
<b>PHYSICAL HAZARDS</b>							
Vandalism.	Staff; local human population and local environment.	Injury to Site staff and emergency services staff; loss of pollution control measures.	Broken glass; damage to pipework, pumps, valves; theft of plant and equipment; damage and theft of cables, equipment and machinery.	Fairly probable.	Noticeable.	Acceptable.	Site security measures in place and EMS procedure for emergencies.
Bikes, off road vehicles, plant, machinery and other vehicles gaining unauthorised access.	Local human population and/or livestock.	Bodily injury; nuisance; loss of pollution control measures.	Direct physical contact.	Unlikely.	Severe.	Acceptable.	Site security measures in place and EMS procedure for emergencies.
Fire from arson, lightning strikes, machinery or 'hot	Local human population and local environment.	Respiratory irritation, illness and nuisance to	Air (wind) transport of smoke. Spillages	Unlikely.	Severe.	Acceptable.	Site security measures in place and EMS

Identifying the Hazard, Pathway and Receptor				Assessing and Managing the Risk			
loads' causing the release of polluting materials to air (smoke or fumes), water or land.		local population. Injury to staff, fire-fighters or arsonists. Pollution of water or land. Loss of local amenity.	and contaminated firewater by direct run-off from Site and via surface water drains and ditches.				procedure for emergency preparedness.
<b>SPILL HAZARD</b>							
Spillage of fuels and chemicals, leachate breakout from waste, contaminated rainwater run-off from waste, e.g. containing suspended solids.	All surface waters close to and downstream of Site.	Acute effects: oxygen depletion, fish kill and algal blooms.  Chronic effects: deterioration of water quality.	Direct run-off from Site across ground surface, via surface water drains, ditches.	Somewhat unlikely.	Significant.	Acceptable.	All stored liquids shall be provided with secondary containment (applies to wastes and non-wastes such as fuels). Leachate Management.  Surface Water Management.  No point source emissions to water.

## Signature Page

### Golder WSP



Nicola White  
*Project Manager*



Chris McDonald  
*Project Director*

31 March 2022

NW/CM/ab

Company Registered in England No. 01383511  
At WSP House, 70 Chancery Lane, London, WC2A 1AF  
VAT No. 905054942



**[golder.com](http://golder.com)**