Appendix G – Environmental Risk Assessment

Environmental Risk Assessment – Associated Waste Management Limited

Addition of land to the permitted area

1 Introduction

1.1 Document Context

This document corresponds to Question 6 of Application for an environmental permit – Part C2 – General – varying a bespoke permit. This report specifically details the assessment of environmental risk from the changed activities at the site.

1.2 Overview

This risk assessment has been prepared following Environment Agency Guidance - Risk Assessments for Environmental Permits https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit

This sets out the steps to follow for assessing an activity:

- 1 – Identify the risks, and the sources of the risks.
- 2 – Identify the receptors.
- 3 – Identify the possible pathways from the sources of the risks to the receptors.
- 4 – Assess the relevant risks, and check if they are acceptable.
- 5 – Detail the control measures if the risks are too high.
- 6 – Submit the risk assessment.

The guidance indicates that the following risks must be considered:

- any discharge to surface or groundwater
- accidents
- odour
- noise and vibration
- uncontrolled or unintended ('fugitive') emissions, for which risks include dust, litter, pests, and pollutants that should not be in the discharge.
- visible emissions, for example smoke or visible plumes
- release of bioaerosols, for example from shredding, screening, and turning, or from stack or open point source release such as a biofilter

1.3 Scope

This risk assessment specifically considers the risks from the proposed changes to the activities at the site brought about by this Permit Variation. That is the addition of land to the permitted area to allow the construction of a building for waste receipt and processing activities. It will identify any significant risks and demonstrate that any risk will be acceptable by taking the appropriate mitigation measures.

Not all the risks described above are relevant to the operations at this site. The varied activities do not require the discharge of substances to either surface water or groundwater, therefore no risk assessment is required for this. Similarly, no additional plant or equipment is proposed to be added by this variation, so noise and vibration has not been considered. There are no visible emissions from this activity and bioaerosols are not relevant to this activity.

The risk assessment considers:

- Odour
- Fugitive Emissions (including dust, litter, pests)
- Accidents

Risks that have already been assessed and screened out as part of the original application have not been considered further.

2 Assessing the Risks

2.1 Assessment Methodology

The risk assessment is based on the following methodology:

- Identification of potential sources of risk.
- Identification of all potential receptors to risk.
- Risk assessment for each risk type.

The risk assessment is a tool used to identify the pollutant linkage i.e. source-pathway-receptor. For most risks, the atmosphere is the main pathway and will always exist. Therefore, the risk assessment deals primarily with the sources and receptors.

2.2 Sources

Odour

- Receipt and storage of waste within the new building.
- Processing of waste within the new building.

Fugitive emissions

- Release of dust during receipt of waste
- Release of dust during processing
- Pests and vermin attracted to stored waste
- Litter

Accidents

- Fire

2.3 Pathways

The pathways for each risk type have been identified as shown in the table below:

Risk Type	Pathway
Odour	Atmosphere
Fugitive Emissions	Atmosphere
Accidents	Atmosphere
	Surface water run-off
	Infiltration
	Percolation

2.4 Receptors

Potential receptors near the site have been identified and are shown on the plan appended to this document.

The location of each receptor in relation to the site is summarised below. The site is not located in a groundwater source protection zone, and there are no designated habitats for protected species near the site (SSSI, SPA, SAC or Ramsar):

Residential and commercial receptors

The existing site and proposed extension area are in an industrial area. The immediate neighbours of the proposed extension area include:

- To the immediate north and east, the extension area meets and adjoins the existing site.
- To the west, the site boundary is confined by the Sheffield and Tinsley Canal and towpath. There is line of deciduous woodland between the site boundary and the canal and tow path.
- To the south, the site boundary is mostly confined by a block of disused land, with the remainder abutting a commercial/industrial building.
- The proposed extension site will be accessed via the existing site access onto the public highway on Century Street and Clement Street.
- Beyond the commercial/industrial units to the east, residential properties exist at approximately 200m at the closest point. The existing waste operation is located between the location of the residential properties to the east and the proposed extension area.

Open spaces and footpaths

Several playing fields exist within the area. The Sheffield Olympic Legacy Park is located approximately 180m to the west of the site. Two school playing fields are located 190m to the northeast and 270m to the east respectively. at the southern end of Grosvenor Street, which is approximately 130m to the east of the Site, and off Burton Road approximately 330m to the north of the Site (connected to Woden Primary School).

No allotments were identified within a 500m radius of the site.

A towpath exists just beyond the western boundary of the extension area running alongside the Sheffield and Tinsley Canal. The strip of land between the towpath and the operational areas of the site are screened by a dense line of mature trees within the ownership boundary.

Surface water

The nearest surface water course to the Site is the Sheffield and Tinsley Canal located to the west of the site boundary. The elevation of the canal water surface is below that of the operational ground level therefore there is a potential gradient for contamination to impact surface water quality by over-land flow or through the shallow soils.

The potential for direct or indirect run-off of contamination to surface water is not considered likely given that all activities in the extension area will be carried out within a building.

2.5 Risk Assessment

The risk assessment is presented in the following table and considers each specific source/hazard identified and assesses the likelihood of those hazards impacting the receptors.

2.6 Conclusion

The risk assessment indicates that the proposed varied activities, will have no significant environmental impacts in terms of odour and fugitive emissions, and that the likelihood of accidents is minimal.

Table – Assessment of Risk

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification	Risk Management	Residual Risk
What is at risk? What do I wish to protect?	What has the potential to cause harm?	What are the harmful consequences?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be?	What is the overall magnitude of risk?	What is the judgment based on?	What measures will be taken to reduce the risk?	What is the risk that remains?
Local Human Population	Odour	Nuisance, loss of amenity	Air transport from fugitive release	Medium	Medium	Medium	This is a waste transfer and treatment facility. Waste handling and processing has the potential to produce and to release odour. There is potential for exposure if anyone is living or working close to the site. Residents are often sensitive to odour.	The site is in a predominantly commercial and industrial location with residential properties beyond the immediate area to the east. All waste receipt, storage and processing activities in the extension area are to be carried out within a building. Operational procedures include waste pre- acceptance and acceptance procedures to control the receipt of potentially odorous wastes and on waste inventory quantities and storage duration. FIFO controls are applied.	Low
Local Human Population	Releases of particulate matter (dusts)	Harm to human health - respiratory irritation and illness.	Air transport from fugitive release	Medium	High	High	Waste processing has the potential to produce and can release particulate matter. There is potential for exposure if anyone is living or working close to the site.	All waste receipt, storage and processing activities in the extension area are to be carried out within a building. Operational procedures include waste pre-acceptance and acceptance procedures to control the receipt of wastes. Waste types consisting solely of dusts, powders or loose fibres are not accepted.	Low
Local Human Population	Release of particulate matter (dusts)	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Low	Low	Low	Waste processing has the potential to produce and can release particulates. There is potential for exposure if anyone is living or working close to the site.	All waste receipt, storage and processing activities in the extension area are to be carried out within a building. Operational procedures include waste pre-acceptance and acceptance procedures to control the receipt of wastes. Waste types consisting solely of dusts, powders or loose fibres are not accepted.	Very low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification	Risk Management	Residual Risk
What is at risk? What do I wish to protect?	What has the potential to cause harm?	What are the harmful consequences?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be?	What is the overall magnitude of risk?	What is the judgment based on?	What measures will be taken to reduce the risk?	What is the risk that remains?
Local Human Population, Livestock and Wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Medium	Medium	Medium	Residents /landowners sensitive to litter.	All waste receipt, storage and processing activities in the extension area are to be carried out within a building. Appropriate measures are in place and any litter arising from the incoming waste is securely stored on site to prevent its escape. The boundary is routinely inspected, and litter removed.	Low
Local Human Population	Vermin	Harm to human health. Nuisance and loss of amenity.	Air transport and over land	Medium	Medium	Medium	Permitted wastes may attract vermin.	Appropriate measures are in place and routine inspections / pest control carried out.	Low
Local Human Population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity.	Air transport and over land	Medium	Medium	Medium	Insect pests can multiply on permitted wastes, particularly in summer months.	All waste receipt, storage and processing activities in the extension area are to be carried out within a building. Operational procedures include waste pre-acceptance and acceptance procedures to control the receipt of potentially fly infested wastes and on waste inventory quantities and storage duration. FIFO controls are applied.	Low
Local human population and local environment	Fire causing the release of polluting materials to air (smoke or	Respiratory irritation, illness and nuisance to local	Air transport of smoke. Spillages and contaminated	Low	High	High	Waste storage and treatment of potentially combustible wastes.	All waste receipt, storage and processing activities in the extension area are to be carried out within a building and in accordance with a fire prevention plan.	Low

Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification	Risk Management	Residual Risk
What is at risk? What do I wish to protect?	What has the potential to cause harm?	What are the harmful consequences?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be?	What is the overall magnitude of risk?	What is the judgment based on?	What measures will be taken to reduce the risk?	What is the risk that remains?
	fumes), water or land.	population. Injury to staff or firefighters. Pollution of water or land.	firewater run-off.					Activities to conform to recognised standards/regulatory guidance	