



Environmental Risk Assessment

Think3E Consortium Ltd

Think 3e House

15-21 Links Road Finedon

Road Industrial Estate

Wellingborough

Northamptonshire

NN8 4EY

EPR/BB3404KM/V002

Olive Compliance Ltd
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Company Number:12861220

Basis of Report

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1.0 Introduction

Think 3E Consortium Ltd (T3E) has instructed Olive Compliance Limited (OLIVE) to prepare an application for the variation of their Environmental Permit.

As part of the application an Environmental Risk Assessment (ERA) must be prepared in support of an application to vary the permit.

1.1 Methodology

This ERA has been undertaken in accordance with the Environment Agency guidance and is a simple assessment of the risks to the environment and human health from accidents, noise and fugitive emissions that may be associated with the proposed operations at the site.

The aim of the assessment is to identify any significant risks and demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks.

The above guidance requires all receptors that are near the site and could reasonably be affected by the proposed activities to be identified and considered as part of the ERA. Therefore:

- a 2km radius has been adopted in reviewing potentially sensitive receptors of ecological importance; and
- a radius of 1km from the proposed permit boundary has been adopted for all other potentially sensitive receptors (for example, residential, cultural heritage, commercial, industrial, agricultural and surface water receptors).

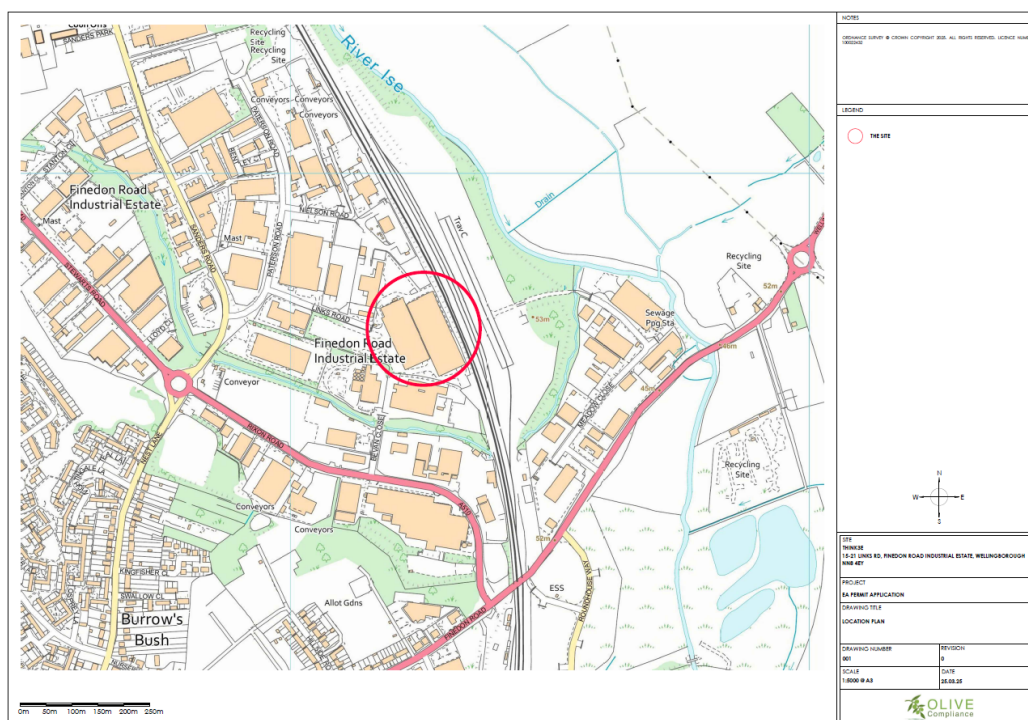
2.0 Site Setting and Receptors

The site (centred at NGR SP 90221 69692) is located Think 3e House, 15-21 Links Road Finedon Road Industrial Estate, NN8 4EY. The site is principally bounded as detailed in Table 1 below.

Table 1: Site Setting

North	Commercial/Industrial
East	Railway Commercial/Industrial
South	Commercial/Industrial
West	Commercial/Industrial

Figure 1: Site Setting Area



2.1 Site Receptors

Consideration must be given to the sensitive receptors that may be affected from site operations in the event of an extreme weather event such as:

- schools, hospitals, nursing and care homes, residential areas, workplaces;
- protected habitats, watercourses, groundwater, boreholes, wells and springs supplying water for human consumption;
- roads, railways, bus stations, pylons (on or immediately adjacent to the site only), utilities, airport.

Table 2 below identifies the risk to sensitive receptors within the surrounding area within 1km.

Following a review of the below receptors, site activities would not impact on local sensitive receptors in the event of an extreme weather event or from the gradual change in climate conditions.

Table 2: Receptors

Receptor	Distance (m)	Contact Telephone Number
Cygnets Pre-School	Southwest 886m	01933 673882
Rail Link	East 115m	East Midland Railway- 0845 712 5678

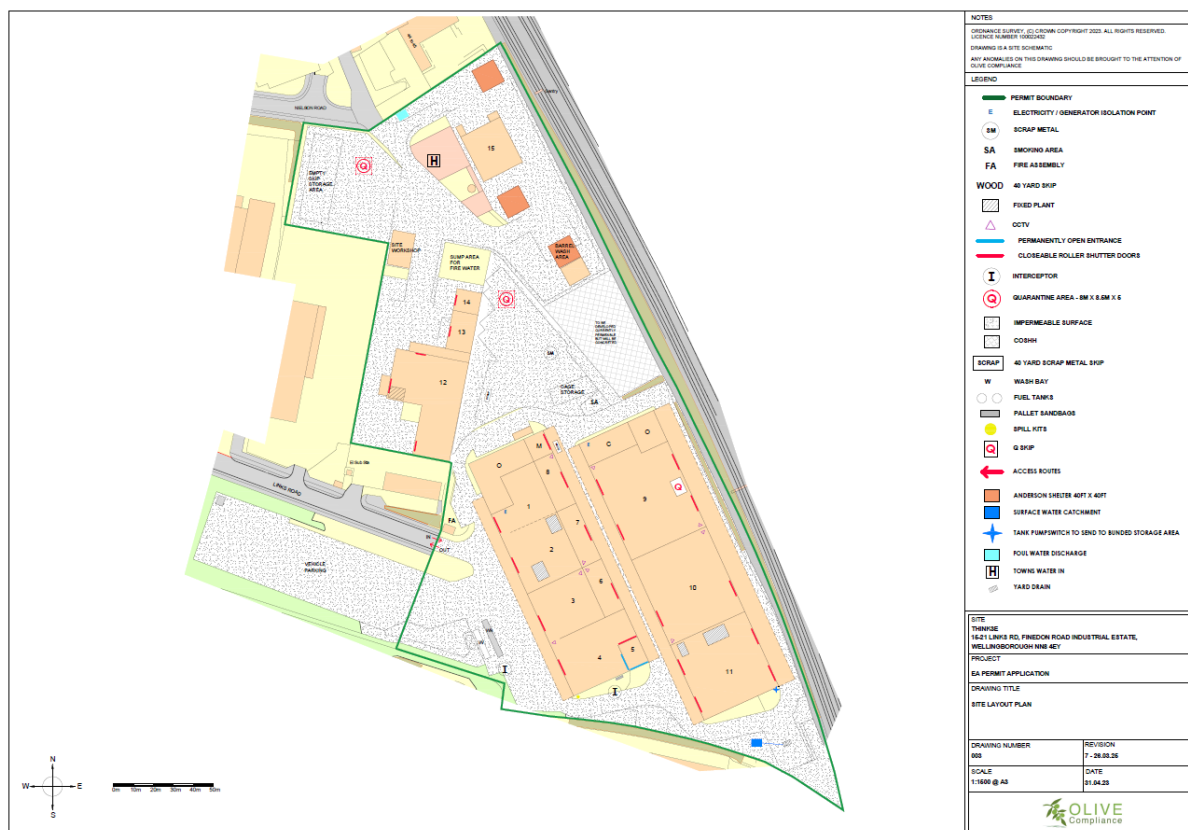
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Compass Church	South 85m	N/A
Central Park	Southeast 990m	N/A
Guillemot Park	Southwest 999m	N/A
A510 Road	South 300m	Highways Agency 0300 123 5000

2.2 Condition of the land at permit issue

The site is covered with a concrete surface and buildings. The new yard area (West side of the site) was formally a chemical works and has been built in line with CIRIA 736 Containment requirements with full bunded containment across the yard and buildings.

Figure 2: Site Layout Plan



Geology

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock

Bedrock geology

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Superficial deposits

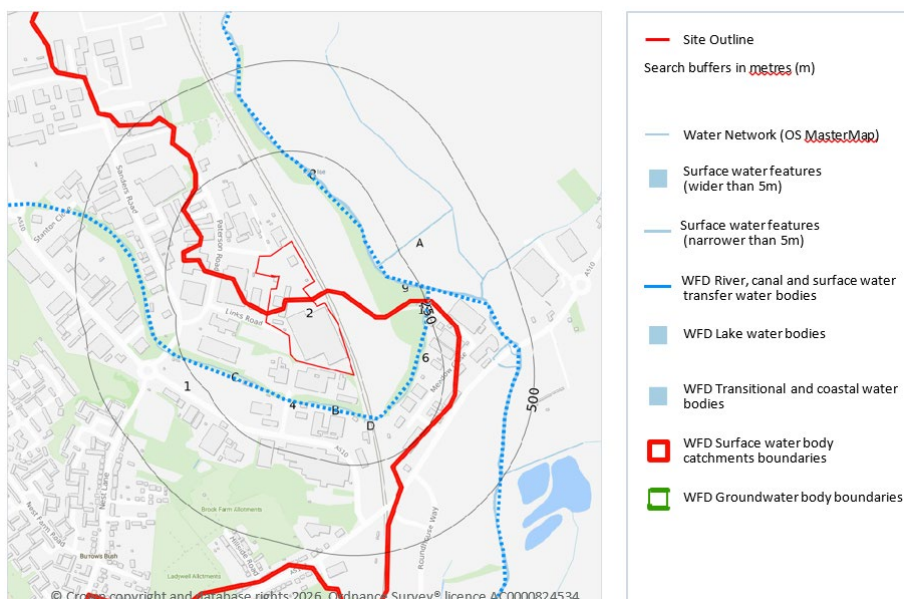
High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits. Medium - Intermediate between high and low vulnerability. Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

Hydrogeology

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows: High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits. Medium - Intermediate between high and low vulnerability. Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

There are 4 surface water features shown within the Groundsure Report, covering rivers, streams and lakes within 250m of the site are shown below.



Surface Water Discharges

Discharges of treated or untreated effluent to controlled waters are managed under the Water Resources Act 1991.

There are 15 recorded discharges within 500m of the site.

The site has an Anglian Water Consent to Discharge.

Source Protection Zone

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

The site is not in a source protection zone.

Air Quality

The site is not in an air quality management zone.

[AQMA's interactive map \(defra.gov.uk\)](https://aqma.defra.gov.uk/)

Flood Risk

Checks carried out on the EA Flood Risk services provided the below information <https://check-long-term-flood-risk.service.gov.uk/>.

Sea levels may rise as high as 0.6m above today's levels. #

For information, the Environment Agency issue three levels of flood warning.

Checks conducted on the UK site identify the site as being located in an area of very low risk from flooding



Flood alert - Prepare

- prepare a bag that includes medicines and insurance documents
- check flood warnings



Flood warning - Act

- turn off gas, water and electricity
- move things upstairs or to safety
- move family, pets and car to safety



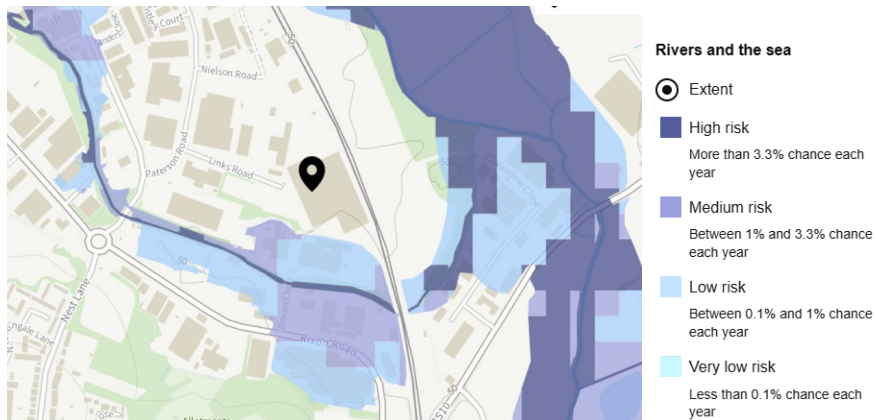
Severe flood warning - Survive

- call 999 if in immediate danger
- follow advice from emergency services
- keep yourself and your family safe

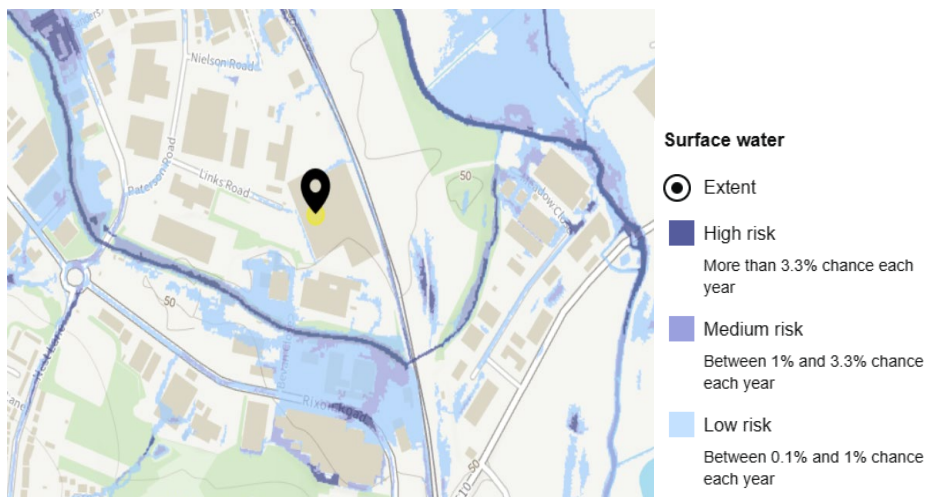
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by surface water, rivers and the sea.

Risk of flooding from rivers and seas – NN8 4EY Very Low Risk



Risk of flooding from surface waters – NN8 4EY Very Low Risk



Other flood risks

Groundwater - Flooding from groundwater is unlikely in this area.

Reservoirs - Flooding from reservoirs is unlikely in this area.

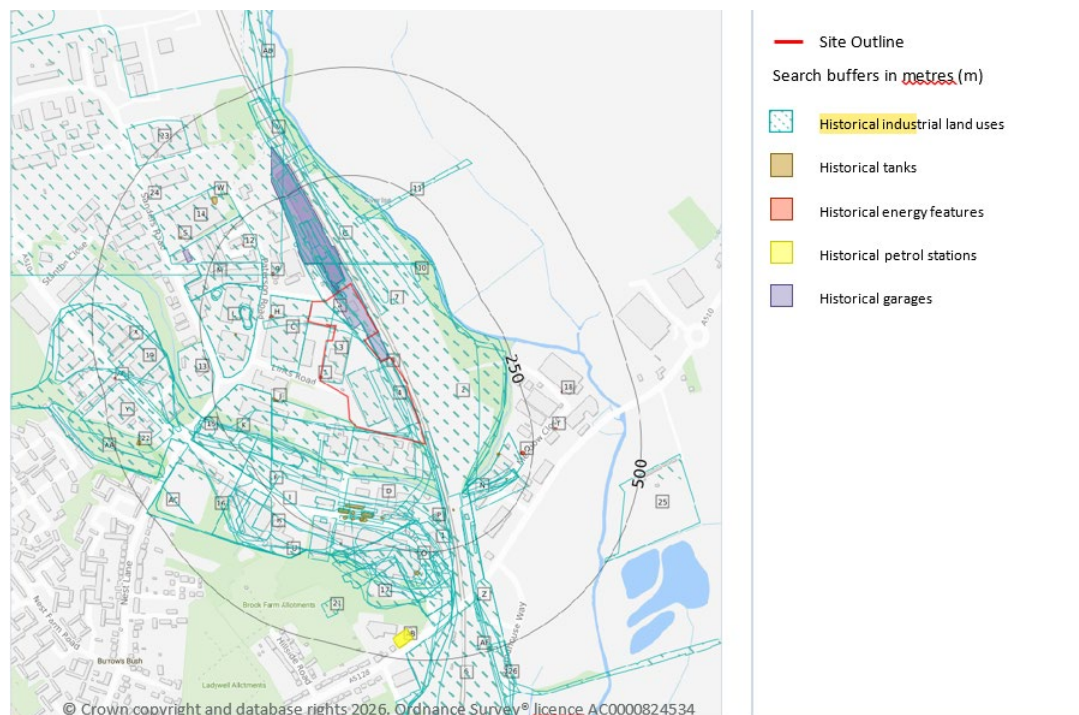
North Northamptonshire Council publish their Flood Management strategy and documents on their website at:

North Northamptonshire Council [Report a flood](https://www.northnorthants.gov.uk/report-a-flood) | [North Northamptonshire Council \(northnorthants.gov.uk\)](https://www.northnorthants.gov.uk)

Previous Land Use

Potentially contaminative land use features digitised from historical Ordnance Survey® mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required.

The Groundsure report (See pg 15) identified the site as being used for industrial use previously.



3.0 Environmental Risk Assessment

3.1 Overview and Approach

This section outlines the procedure that has been followed in the undertaking of the ERA for the site. The results are presented, in accordance with the SEPA Guidance, in the tables presented in Section 3.2.

3.1.1 Identification of Hazards

The first step of an ERA is to consider and identify the risks posed to the environment by the activities proposed for a site.

The EA Guidance states that an operator must:

"...identify whether any of the following risks could occur and what the environmental impact could be:

- *any discharge, for example sewage or trade effluent to surface or groundwater*
- *accidents*
- *odour (not for standalone water discharge and groundwater activities)*
- *noise and vibration (not for standalone water discharge and groundwater activities)*
- *uncontrolled or unintended ('fugitive') emissions, for which risks include dust, litter, pests and pollutants that shouldn't be in the discharge*
- *visible emissions, eg smoke or visible plumes."*

3.1.2 Identification of Receptors

Section 2 of this document describes the site setting and the land uses in the vicinity of the proposed site. This information has been used in order to focus on the main receptors that could be potentially at risk from the activities of the site.

The site due to the site setting and low risk activities it is not felt that the facility will impact sensitive receptors, habitats or local environment.

The site naturally lies in a depression with a natural and manmade soil bunds to screen offsite activities. Concrete walls and bays are used as a further site controls to reduce the risk of escape of waste and any fugitive emissions such as noise and dust from site.

In accordance with the SEPA Guidance, drawing 004 presents a map showing the location of the site and the receptors considered within the ERA.

3.1.3 Identification of Potential Pathways

For each of the identified hazards for operation of the site, the ERA has considered that pathways through which each hazard may impact on a sensitive receptor. Where such pathways exist, the risks of potentially significant impacts have been assessed in accordance with Sections 3.1.4 and 3.1.5 (below) and the full details are included in the tables in Section 3.2.

Where no pathway exists between an identified hazard and an identified receptor, the associated risks are not considered further within the ERA and are, thus, not included in Section 3.2.

3.1.4 Assessment of Risks

The EA Guidance states that the nature of the ERA will be influenced by the type of activity (or activities) that are proposed for a site. For installations/waste operations, the ERA is required to consider, “...one or more of the following, depending on the substances you discharge and where they’re discharged to:

- *assess the risks of your air emissions*
- *calculate the global warming impact of your air emissions*
- *assess risks to groundwater*
- *assess risk to groundwater from landfill leachate*
- *assess risks to surface water from hazardous pollutants*
- *assess risks to surface water from sanitary and other pollutants”*

For installations and waste operations, an operator is also required to decide how to treat, recycle or dispose of waste. The ERA has therefore included consideration of the environmental impact of the ultimate fate of the materials that will be processed by the proposed activities of the site.

3.1.5 Controlling Risks

The EA Guidance states:

“You’ll need to show how you’re managing any risks appropriately by controlling and monitoring your emissions and through your management system.”

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Where an ERA identifies risks that are potentially significant, the ERA is required to demonstrate how the risk of pollution or harm can be mitigated by measures to manage these risks. The approach undertaken to the implementation of management/mitigation measures, for this ERA, is (in order of preference):

- Avoidance / prevention;
- Minimisation / management;
- Mitigation; and
- Offset / compensation.

The following tables present the assessment in terms of hazards posed, receptors and pathways, along with management and residual risks for the following hazards:

- Odour;
- Noise and Vibration;
- Fugitive Emissions (including dust, mud, litter and pests); and
- Accidents.

Table 3-1 Odour Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Odours from the acceptance and storage of waste	<i>Site personnel and local human population</i>	Air	- Food waste depackaged and loaded into bulk trailers for AD plant. Odour Management plan and Appendix I of Incident Prevention Mitigation Plan, and HACCP used to manage site. - Turn around of perishable food waste within 72 hrs. - Loading within building. - Strict waste acceptance procedures will be adhered to, to ensure only permitted wastes are accepted on site. - In the event that odours are detected, investigations will be undertaken to determine the cause and appropriate remedial action taken. - The Site Manager will be responsible for implementing risk management measures. - Daily odour assessment made as part of daily site inspections.	Negligible	Odour nuisance and loss of amenity.	Not significant. No odour complaints received from site activities.

Table 3-2 Noise Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Noise from vehicular movements (site access road and yard) Noise from operation of site plant.	<i>Site personnel and local human population</i>	Air.	- The site is located within an industrial area and bordered by a main railway with limited human receptors. - Waste treatment operations will only be carried out during operational hours. All equipment will be maintained and operated in accordance with manufacturer's guidance and will be maintained in good working order. - The site will be operated so as to minimise noise emissions from the site. Measures that will be taken at the site include: - The imposition of a speed limit for vehicles delivering waste to the site. This will reduce noise associated with high engine speeds; training of all personnel in the need to minimise site noise. All personnel are responsible for monitoring and reporting excessive noise when carrying out their everyday roles; - regular maintenance of site surfaces to prevent the development of potholes and damaged surfaces. This will significantly reduce noise generated by vehicles, particularly empty vehicles exiting the site;	Mobile. Intermittent throughout the day. Medium.	Noise nuisance and loss of amenity.	Not significant No noise complaints received to date.

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			• Any noise complaint received will be logged in the site diary. The Site Manager will investigate the complaint and will take action to identify the source of the noise and implement remedial measures where appropriate. • The measures employed at the site to minimise the emission of noise will be regularly reviewed by the Site Manager and additional measures will be employed where required. • The procedure for managing complaints is included in the EMS. • The management of noise emissions is detailed further in the EMS.			
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Table 3-3 Fugitive Emissions Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
To Air:						
Dust from: Vehicle movements Waste storage and treatment Dusty wastes Waste deposition Waste surfaces	<i>Site personnel , local receptors and local human population</i>	Air	- Due to the nature of the waste accepted at site, there is not a potential for dust particles to be released as dust to air. - Speed limits will be implemented for vehicles using the site. The entire site benefits from concrete surfacing throughout. - Site access roads and operational areas will be maintained and repaired to minimise emissions of dust due to uneven and poor surfacing. - All roads and operational areas will be swept where necessary to reduce dust emissions. If required, the site will be washed down in particularly dry conditions. - Daily visual inspections of all areas of the site and the site boundary will be carried out by site personnel. In dry windy conditions the frequency of these inspections will be increased, if required. - In the event that significant visual dust is observed at the boundaries of the operational areas, action will be taken to suppress the dust.	Medium	Dust nuisance Harm to human health	Not significant

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			The procedure for managing complaints is included in the EMS.			
To Water						
Runoff from waste storage areas & site surfaces Percolation of contaminated water	Surface water: Groundwater within bedrock deposits.	Overland percolation through the ground	- Strict waste acceptance procedures will ensure that only permitted waste types are accepted on site reducing the risk of contaminated run off; - In the event that non-conforming waste is delivered to site, it will be isolated and removed from site at the earliest opportunity. - Both Yards benefit from impermeable surfacing and sealed drainage systems to prevent any release of contaminated water to land or local watercourses. - The Site Manager will be responsible for implementing risk management measures.	Low	Contamination of surface water and groundwater.	Not significant
Pests						
Birds, vermin and insects.	<i>Site personnel and local human population</i>	Via air (flies and birds) or over ground (vermin and birds).	- Due to the nature of the wastes to be accepted at the site, it is perceivable that pests will pose a potential risk at the facility. - The facility will be inspected by both site management and operatives for infestations of pests, vermin and insects on a routine basis. - A specialist pest control contractor carries out routine monthly visits as well as a call off contract as and when required. - The management of pests is further detailed in Pest Management Plan of the EMS.	Negligible	Nuisance, loss of amenity and harm to human health.	Not significant

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Mud/Litter						
Litter from acceptance and storage of waste	<i>Local human population and wildlife.</i>	Airborne litter	- Due to the nature of the waste to be accepted on site, it is not anticipated that litter will pose a serious risk. However, the boundary of the site and its environs will be regularly visually inspected and any litter cleaned up. The site will benefit from a perimeter fence which will limit the potential for litter to escape off-site. - It will be the responsibility of the site staff to monitor the site for any signs of escaping materials either from within the site or from vehicles delivering or removing materials to and from the site. - Inspections will be carried out on a daily basis and a record maintained within the site diary. - The management of litter is detailed further in the EMS.	Low	Nuisance and loss of amenity	Not significant
Mud on roads	<i>Local human population</i>	Transferral of mud on vehicle wheels	- The site is fully surfaced with concrete with concrete access roads. It is therefore not expected that mud will feature as a problem on the site. - The following measures will be taken to prevent the deposition or tracking of mud or debris from the site onto public areas or highways: - site surfaces will be maintained free of significant quantities of mud and debris; - all operational areas will be subject to monitoring by staff throughout the working day; and - all vehicles leaving operational areas will, before leaving the site, be checked to ensure that they are clear of loose waste	Low	Mud on road, road traffic accidents.	Not significant

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			and that any products being exported from the site are secure. • In the event that mud, debris or waste arising from the site is deposited onto public areas outside the site, the following remedial measures will be implemented: • the affected public areas outside the site will be cleaned; and • traffic will be isolated from sources of mud and debris within the site to prevent further tracking of mud and debris, and measures will be taken to clear any such sources as soon as practicable.			
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Table 3-4 Accidents Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk management	Probability of exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? – Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Unauthorised waste	<i>Site personnel and local human population</i> <i>Local environment</i>	Via air (odours and dust) Overland (to sewer, surface water and groundwater)	- Upon delivery waste will be subject to strict waste acceptance procedures to identify, reject and/or segregate potentially non-conforming waste. - Only waste authorised by the permit will be accepted at the site. - All wastes will be subject to inspection and checking against the declaration on the waste transfer documentation. - In the event that unauthorised waste is delivered to the site, the waste will be reloaded onto the delivery vehicle for removal from site, or will be segregated and stored in a designated quarantine area prior to export from site. - The waste acceptance procedures are included in the EMS. - The Site Manager will be responsible for implementing risk management measures.	Low	Water contamination Odour and dust nuisance, loss of amenity	Not significant

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Fire	<i>Site personnel and local human population</i> <i>Local environment</i>	Air, water runoff	Due to the nature of the waste activity the risk of Fire could be low. A brief summary of the measures which will be employed is as follows: • incompatible materials will not be accepted at the site; • fire extinguishers will be provided at designated locations; • smoking will not be permitted in operational areas of the site; • working practices will ensure the assessment of fire hazards and training of employees in fire prevention, e.g. the use of fire extinguishers and emergency procedures; and • no wastes will be burned on the site and any fire at the site will be treated as an emergency. • In the event of a major fire, the following action will be taken: • the Site Manager and Fire Brigade will be notified immediately and the Environment Agency as soon as practicable; • the burning area will be isolated and attempts will be made to extinguish the fire utilising the onsite fire extinguishers, if safe to do so; and • the site and buildings will be evacuated. • The site has an approved Fire Prevention Plan.	Low	Nuisance (smoke and fumes) and harm to human health. Water contamination (runoff)	Not significant
Spillage and Leakage	Local land quality, surface water and groundwater.	Runoff and percolation	To prevent loss of containment and minimise the risk and impact of releases the following	Low	Contamination of groundwater and	Not significant

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	<i>Site personnel, emergency services personnel and local human population</i>	through ground. Direct exposure and transport via air	measures will be implemented: • Containment system: any facilities for the storage of oils, fuels or chemicals will be sited above ground on impervious bases and surrounded by impervious bund walls. The volume of the bunded compound will be at least the equivalent to the capacity of the tank plus 10%. All filling points, vents and gauges will be located within the bund. • Storage vessels: storage tanks will be constructed to the appropriate British Standard; • Inspection: tanks will be inspected visually on a daily basis by site staff to ensure the continued integrity of the tanks, and identify the requirement for any remedial action; • Spill kits: materials suitable for absorbing and containing minor spillages will be maintained on site; and • Monitoring techniques: the site staff will undertake daily monitoring for evidence of spillage and leakage. • In the event of any potentially polluting leak or spillage occurring on site, the following action will be taken: • Minor spillages will be cleaned up immediately, using sand or proprietary absorbent. The resultant materials will be placed into containers and will then be removed from site and disposed of at a suitably permitted facility. The		surface water. Harm to human health.	
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			incident will be logged in the site diary. - Any dry wastes spilled on site will be quarantined immediately and controlled by the site manager. Wastes will be re bagged and stored within the container. - In the event of a major spillage, which is causing or is likely to cause polluting emissions to the environment, immediate action will be taken to contain the spillage and prevent liquid from entering surface water or drains. The spillage will be cleared immediately and placed in containers for offsite disposal, and the Environment Agency will be informed. - The spillage procedure, included in the EMS, provides further information with respect to spillages on site.			
Security and Vandalism	Personnel on site, emergency service workers.		The following security measures are in place: - Security gates: the site entrance will be locked at all times when the facility is unattended and when the site is not in use; - Manned weighbridge with security barrier. - CCTV is installed around the site with external monitoring by the Operator and the external Security Company. - Authorised access system: all visitors to the site will be required to register in the visitor's book and sign	Low	Nuisance and harm to human health. Contamination of land and surface water.	Not significant

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			out again on exit to minimise the risk of unauthorised visitors being present on site; and - Monitoring techniques: operational procedures, including regular inspections, will ensure continual monitoring of security provision at the site. - In the event of a breach of security at the site, the cause will be investigated and appropriate mitigation measures implemented. Records to be maintained include inspections and maintenance of security fencing and gates, breaches of security, investigations and actions taken.			
Flooding	<i>Site personnel and local human population</i> <i>Local environment</i>	Overland	- According to the government Flood Map for Planning, has a low risk of flooding; - Evacuation procedures will be implemented in the event of flooding. - The Site Manager will be responsible for implementing risk management measures. - The site has a Climate Change RA as part of the EMS.	Low	Inundation of site with flood water	Not significant