

CAULMERT LIMITED

Engineering, Environmental & Planning
Consultancy Services

Ewloe Recycling Facility

Thorncliffe Building Supplies Waste Ltd

Environmental Permit Variation Application

Installation Techniques & BAT review

Prepared by:

Caulmert Limited

5 Farrington Way, Eastwood Link Business Park, Eastwood, Notts NG16 3BF

Tel: 01773 749132

Fax: 01773 746280

Email: andystocks@caulmert.com

Web: www.caulmert.com

Doc ref: 2784-CAU-XX-XX-RP-V-302-A0-C2

December 2016



APPROVAL RECORD

Site: Ewloe Waste Recycling Facility

Client: Thorncliffe Building Supplies Ltd

Project Title: Ewloe IED Permit Variation

Document Title: Installation Techniques & BAT review

Document Ref: 2784-CAU-XX-XX-RP-V-302-A0-C2

Report Status: Final

Project Manager: Andy Stocks

Caulmert Limited: 5 Farrington Way, Eastwood Link Business Park, Eastwood, Notts NG16 3BF

Tel: 01773 749132

Author	Andy Stocks	Date	15/12/2016
Reviewer	Lisa Sumner	Date	15/12/2016
Approved	Andy Stocks	Date	20/12/2016

DISCLAIMER

This report has been prepared by Caulmert Limited with all reasonable skill, care and diligence in accordance with the instruction of the above named client and within the terms and conditions of the Contract with the Client.

The report is for the sole use of the above named Client and Caulmert Limited shall not be held responsible for any use of the report or its content for any purpose other than that for which it was prepared and provided to the Client.

Caulmert Limited accepts no responsibility of whatever nature to any third parties who may have been made aware of or have acted in the knowledge of the report or its contents.

No part of this document may be copied or reproduced without the prior written approval of Caulmert Limited.

TABLE OF CONTENTS

1. INTRODUCTION	2
2. WASTE ACCEPTANCE PROCEDURES	3
2.1 Managment system	3
2.2 Carrier Registration	3
2.3 Waste Pre- acceptance	3
2.4 Waste Acceptance.....	3
2.5 Waste Rejection	4
2.6 Hazardous Waste Inputs	5
2.7 Outgoing Vehicles	5
2.8 Waste Records	5
2.9 General.....	6
3. DESCRIPTION OF TREATMENT PROCESS.....	7
3.1 Production of RDF	7
4. SITE DRAINAGE	8
4.1 Roof Water Drainage	8
4.2 Surface Water Drainage – potentially contaminated	8
4.3 Foul Water Drainage (Sewerage)	8
5. EMISSIONS CONTROL AND MONITORING	9
5.1 Point source Emissions.....	9
5.2 Fugitive Emissions	9
6. NUISANCE MANAGEMENT	11
6.1 Pests	11
6.2 Noise and vibration	11
7. RAW MATERIALS.....	13
7.1 Managment of Raw Materials	13
7.2 Fuel & Lubricants	13
7.3 Air Spectrum	13
7.4 Baling film and wrap	13
8. BASIC ENERGY REQUIREMENTS AND FURTHER ENERGY EFFICIENCY	14
8.1 Energy usage	14
9. ACCIDENTS	15
10. CLOSURE.....	16

1. INTRODUCTION

1.1 Background

- 1.1.1 This report is an assessment of compliance of the existing operation subject to this variation at the Ewloe Recycling Facility with the sector guidance note for waste treatment (SGN 5.06).
- 1.1.2 A general process description for the treatment activities is provided in section 4 of this report.
- 1.1.3 The scope of this report is limited to technical standards associated with the addition of the listed activity associated with this application and does not include the existing waste management operations that are currently permitted at the site.

2. WASTE ACCEPTANCE PROCEDURES

2.1 Managment system

- 2.1.1 All waste acceptance will be carried out in accordance with waste acceptance procedures that form part of the Sites Management System.

2.2 Carrier Registration

- 2.2.1 The weighbridge clerk will check that the Customer is a Registered Waste Carrier. If the customer is not a Registered Waste Carrier the weighbridge clerk will not permit them to access the site and advise them to contact the National Resources Wales (NRW) to ensure registration. In addition NRW will be notified that an unregistered waste carrier has attempted to access the site.

2.3 Waste Pre- acceptance

- 2.3.1 Guidance will be given by the site management to all employees, sub-contractors, other waste carriers and customers regarding the waste types and operations which are acceptable at the site i.e. a copy of Appendix III of this document.
- 2.3.2 The site will be used for the waste collections by Thorncliffe Building Supplies Ltd's own skip hire operations and for waste from third-party users, whose details will be checked prior to delivery of waste to the site.
- 2.3.3 For in-house collections, the driver employed by the permit holder will arrive at the waste producer's premises he/she will inspect the load for conformity with relevant regulations;
- a) If the load is satisfactory the driver will sign the relevant paperwork (Duty of Care transfer note/delivery ticket) and remove the load from the premises.
 - b) If the waste does not meet the description stated on the controlled waste transfer note the customer is advised to check the note and give a more detailed description of the waste.
 - c) If the more detailed description of the waste reveals that the waste is not permitted at the recycling centre then the customer is advised that the waste must be taken to another site which is appropriately permitted to accept the waste(s).
 - d) If further instructions are needed the driver may also report back to the site manager.

2.4 Waste Acceptance

- 2.4.1 All vehicles entering the site must stop on the weighbridge and report to the site office. First time visitors to the site are asked to read the issued notice giving instructions on health and safety and site procedures then sign the issue log to acknowledge understanding. Visitors other than customers bringing waste to the site

must sign the Visitors Book and undertake a site induction before proceeding onto the site, and sign out prior to leaving.

2.4.2 On arrival loads should:

- be weighed, using the site weighbridge,
- be accompanied by a transfer note describing;
 - the physical and chemical composition;
 - hazard characteristics and handling precautions;
 - information specifying the original waste producer and process;
- not be accepted into site unless sufficient storage capacity exists and site is adequately manned to receive waste;
- have all documents checked and approved, and any discrepancies resolved before the waste is accepted;
- hazardous wastes should only be received under the supervision of a suitably qualified person.

2.4.3 On-site verification and should take place to confirm:

- the identity of the waste;
- the description of the waste;
- consistency with pre-acceptance information and proposed treatment method;
- compliance with permit.

2.4.4 The weighbridge clerk will question the driver if unsure about the waste description to ensure it complies with the requirements of the Permit for the site. The clerk will make a visual check, whenever possible, to ensure an adequate description has been provided.

2.4.5 If the clerk is satisfied that the waste is acceptable at the site within the terms of the Permit, the customer will be directed to the tipping area or the relevant recycling area.

2.4.6 Once a load has been accepted by the operator, the driver will be asked to unsheet the vehicle (if it is sheeted) and a visual inspection of the contents will be carried out to ensure that the waste types comply with the Permit.

2.4.7 If the load is unacceptable after deposit it will be rejected in accordance with Waste Rejection procedure.

2.5 Waste Rejection

2.5.1 If the clerk is not satisfied by either the waste description or the content of the incoming load, the vehicle will be directed to the relevant reception area. The supervisor/manager will check the load thoroughly and decide on its acceptability.

2.5.2 If the clerk determines that the waste is not acceptable under the terms of the Permit or items not permitted under the terms of Permit are discovered within a load of deposited waste, the material will be isolated immediately, and NRW will be informed as necessary (of the type of waste involved, the carrier registration mark, name of carrier, date and time of deposit / delivery, name of the producer of the waste and proposed course of action). If more than 2 tonnes of waste is rejected it will be removed from the site immediately.

2.5.3 The material will either be:

- Reloaded into the delivery vehicle;
- Loaded into a container and stored in for subsequent removal from site; or
- Otherwise dealt with in accordance with procedures discussed, and agreed, with NRW at the time of the incident.

2.6 Hazardous Waste Inputs

2.6.1 The site does not accept hazardous wastes as part of the RDF process. The only hazardous waste accepted at the site is cement-bonded asbestos, as detailed in the Environmental Management System.

2.6.2 Asbestos is double bagged and stored in a locked container on site, on an area of impermeable hardstanding.

2.7 Outgoing Vehicles

2.7.1 Outgoing vehicles must stop on the weighbridge before leaving the site. The tare weight will be recorded on the computer and a ticket printed with all the detail documented. The weighbridge clerk should sign the ticket and ensure the customer also signs for the tonnage. In the event of computer failure, weighbridge tickets will be issued manually.

2.7.2 All outgoing vehicles carrying bulk waste materials or materials destined for recycling reprocessors will be weighed out and their loads sheeted, if necessary, before leaving the site.

2.8 Waste Records

2.8.1 All weighbridge records are collated using a computerised system to ascertain waste inputs by weight and type on a monthly basis in order that the required waste received and removed from the site can be reported to NRW for each quarter of the year. The information will be provided in the standard waste return format.

2.9 General

- 2.9.1 Wastes should not be accepted at the installation without a clear defined method of recovery or disposal being determined and costed and ensuring there is sufficient capacity available.
- 2.9.2 These checks should be performed before the waste acceptance stage is reached.

3. DESCRIPTION OF TREATMENT PROCESS

3.1 Production of RDF

- 3.1.1 The screening and sorting of mixed recyclable materials is undertaken at the site to segregate into different recyclable components. The equipment is located inside the waste transfer area on the concrete pavement to minimise the risk of pollution.
- 3.1.2 Incoming waste streams will be inspected for suitability for the process. Unsuitable materials and large recyclable materials will be removed and the remaining waste is shredded using a mobile shredder.
- 3.1.3 The unsuitable materials and any recyclables removed will be disposed of or sent for further treatment, depending on their composition.
- 3.1.4 The current management system will be updated to reflect the new building before it becomes operational. Please refer to drawing 2784.CAU.VN.XX.DR.V.0002.A0.C1 for details of proposed layout of the processing area.
- 3.1.5 In the event of any mobile plant experiencing significant (more than one working day) downtime, replacement hire plant will be mobilised for the remaining duration of the downtime. Should the RDF experience significant downtime any material awaiting processing will be diverted to another facility, as necessary.
- 3.1.6 The RDF equipment is supervised by a mechanical technician who can undertake small repairs and is also subject to a maintenance contract where any major failure will be attended to without delay.
- 3.1.7 In the event that RDF is to be baled the shredded RDF will be fed into an automatic baler and in-line bale wrapper system. Only baled and wrapped RDF will be stored outside.

4. SITE DRAINAGE

4.1 Roof Water Drainage

- 4.1.1 Rainwater from the main roof is harvested and reused for dust control and cleaning.
- 4.1.2 This uncontaminated water is stored in a tank and used for dampening down on site.

4.2 Surface Water Drainage – potentially contaminated

- 4.2.1 All wastes accepted at the site which are potentially contaminating are stored and treated on impermeable surface with drainage to sewer via the existing sumps, a silt trap and interceptor.
- 4.2.2 Drainage details are shown on drawing 2784.CAU.VN.XX.DR.V.0003.A0.C1
- 4.2.3 The site construction means that all wastes (other than inert wastes) are deposited, sorted, stored and loaded on an impermeable concrete pavement. The main handling area within the building is enclosed to further reduce the potential for contamination and the generation of excess volumes of contaminated liquids.

4.3 Foul Water Drainage (Sewerage)

- 4.3.1 The water generated from the staff welfare facilities is disposed of to a septic tank.

5. EMISSIONS CONTROL AND MONITORING

5.1 Point source Emissions

Air

- 5.1.1 There are no emissions direct to air.

Surface water

- 5.1.2 There are no emissions direct to surface water. Rainwater from the roofs of buildings is harvested and used for dust suppression on site.

Sewer

- 5.1.3 All site surface water drains to sewer with no emissions to surface water. No monitoring of the sewer is carried out.

Groundwater

- 5.1.4 There are no point Source Emissions to groundwater.

5.2 Fugitive Emissions

Air

- 5.2.1 The principal potential fugitive emission to air is from dust created by RDF production. Nuisance from dust is assessed within the Amenity and Accidents Risk Assessment (2784-CAU-XX-XX-RP-V-0303-A0-C1). The Site Management System contains a separate Dust Management Plan (Ref 2875-012-H v1.0 dated 02/12/2014).

- 5.2.2 The management system includes a complaints procedure and Complaints Report Form for dealing with dust that includes a record of the complaint, particulars of the complainant and details of any action taken to alleviate the problem.

- 5.2.3 Other point source emissions include diesel operated equipment and fuel storage vents that are unabated. However these are not considered to be significant.

Surface water & Sewer

- 5.2.4 There are no emissions direct to surface water. Rainwater from the roofs of buildings is harvested and used for dust suppression on site.

- 5.2.5 All areas used for storage or handling of wastes that may have contaminated runoff will have impermeable pavements.

- 5.2.6 All site surface water not harvested, drains to sewer with no emissions to surface water.

Groundwater

- 5.2.7 All areas used for storage or handling of wastes that may have contaminated runoff will have impermeable pavements.

5.2.8 The drainage system will be constructed and maintained to be impermeable and to prevent leaks.

5.2.1 All containment systems for oil and other potentially polluting liquids are constructed in accordance with CIRIA C736 guidance for containment systems for the prevention of pollution.

5.2.2 Regular inspections of impermeable pavements: Any damage detected that could impair the integrity of the pavement should be recorded and repairs carried out as soon as possible.

Odour

5.2.3 Odour is assessed within the Amenity and Accidents Risk Assessment (2784-CAU-XX-XX-RP-V-0303-A0-C1) and the Site Management System.

5.2.4 Untreated wastes to be unloaded, stored and handled within a building providing some aerial containment.

5.2.5 Any significantly odorous materials detected upon off-loading will be covered or contained. If it cannot be stored safely without causing odour outside the site, it will be removed from site as soon as practicable.

5.2.6 Any incoming waste generating strong odour will be loaded into the first available bulk lorry departing site. Residence times for all biodegradable wastes will be minimised.

5.2.7 General housekeeping, such as sweeping of surfaces and machinery being cleared regularly of residue build up. RDF will be baled and wrapped prior to any temporary storage outside.

5.2.8 All complaints will be recorded as per the requirements of the Management System and will include a record of the complaint, particulars of the complainant and details of any action taken to alleviate the problem

6. NUISANCE MANAGEMENT

6.1 Pests

- 6.1.1 Pest control is operated in house. Records of any necessary action taken are held in the weighbridge office.
- 6.1.2 The rapid turnaround of general wastes at the site means that the risk of pest development - mainly flies and other insects - on site are minimised. There is however a risk that customers may inadvertently bring loads of wastes into the site with flies, wasps and other insect pests already developed. In this event the waste load will be removed from site as soon as possible. The carrier/customer will be informed to ensure that future loads do not give rise to similar problems.
- 6.1.3 If any RDF is to be stored outside then it will be baled and wrapped in plastic film to minimise the potential for pest development with any split bales transferred back into the building for re-wrapping.
- 6.1.4 Birds are likely to be attracted to the site due to the general waste handling areas being located in an open sided building, however bird scaring devices are employed to control their numbers.
- 6.1.5 It is recognised however that other waste such as food waste or rejected waste stored on site may consist of materials more attractive to scavenging pests. Therefore pest and vermin activity will be monitored on a daily basis with results recorded on the daily check sheet. Pest control is carried out on site by Site staff.
- 6.1.6 In addition, a recognised pest control contractor will be brought in within 48 hours if any particular problems are encountered.
- 6.1.7 See Amenity & Accidents Risk Assessment and the site's Environmental Management System for further assessment and control measures for pests.

6.2 Noise and vibration

- 6.2.1 The site is located at the far corner of the industrial estate and backs onto a restored landfill with no residential properties nearby. However site operations are carried out to minimise impact on nearby premises with regard to noise and vibration.
- 6.2.2 The Best Practicable Means will be employed on site at all times to ensure that all plant and equipment does not exceed any agreed background levels by more than 5dB, measured at the nearest noise sensitive property.
- 6.2.3 The operator employs basic good practice measures for the control of noise, including adequate maintenance of any parts of plant or equipment whose deterioration may give rise to increases in noise.

- 6.2.4 Potential noise sources at the site have been identified as being shredders, screening equipment and mobile plant.

- 6.2.5 A preventative maintenance checklist (TBS/RF/9) is in place for all of the plant and equipment that will include maintenance and servicing of parts that could give rise to increases in noise.

- 6.2.6 A noise assessment carried out in December 2015 concluded that *“The noise climate is dominated by noise from an extremely busy road (A494) and other industrial units in the vicinity of the receiver, notably a quarry executing regular blasting. In our view the operation of Thornccliffe Waste Management and Recycling is unlikely to have a significant effect on the nearest residential properties, with levels calculated to be well below existing background levels during hours of operation”*

- 6.2.7 All complaints will be recorded as per the requirements of the Management System and will include a record of the complaint, particulars of the complainant and details of any action taken to alleviate the problem.

7. RAW MATERIALS

7.1 Managment of Raw Materials

- 7.1.1 Copies of Material Safety Data Sheets will be obtained when materials are purchased and any relevant recommendations in relation to handling or storage will be followed, in accordance with the site's management procedures.
- 7.1.2 Thorncliffe will implement procedures for the regular review of new developments in raw materials and for the implementation of any suitable ones with an improved environmental profile.

7.2 Fuel & Lubricants

- 7.2.1 Fuel oil consumption is estimated to be around 1,800 litres per week, which is used in the waste handling and processing plant on site.
- 7.2.2 A 1,200 litre bunded diesel storage tank is stored on site on a concrete surface.
- 7.2.3 Oils, grease and lubricants are stored in a container with no more than 500 litres stored on site at any one time.
- 7.2.4 All containment systems for oil and other potentially polluting liquids are constructed in accordance with CIRIA C736 guidance for containment systems for the prevention of pollution.

7.3 Air Spectrum

- 7.3.1 The deodourising air spectrum machine uses dilute 'Odr', a neutralising additive, to minimise the impact of odour from the site.

7.4 Baling film and wrap

- 7.4.1 In the event that RDF is required to be stored outside in the future it will be baled and wrapped in plastic film.
- 7.4.2 Typically this operation would utilise rolls of wrapping film, to wrap the waste for transportation and will reduce the impact of odour and pests.
- 7.4.3 In addition strapping would be used in the baling process, typically nylon strapping is used.

7.5 Water Reuse and Efficiency

- 7.5.1 Whilst water usage on site is low water-efficient techniques will be used wherever possible. Water usage will be reviewed on a regular basis.

- 7.5.2 Rainwater from the roofs of buildings is harvested and used for dust suppression on site.

8. BASIC ENERGY REQUIREMENTS AND FURTHER ENERGY EFFICIENCY

8.1 Energy usage

- 8.1.1 The main energy requirement is the plant and equipment associated with the recycling facility e.g. Trommel, shredder, conveyor belts, separation equipment and potential baling equipment. The majority of the plant and equipment is diesel powered, fuel consumption is estimated at approximately 94,000 litres per annum.
- 8.1.2 As the majority of equipment on site is diesel operated electricity is only used for ancillary equipment such as lighting and heating in winter hours. Electricity use on site is therefore minimal.
- 8.1.3 A biomass boiler is used on site to provide heating throughout Thorncliffe's building on the site.
- 8.1.4 Plant will not be left to run when no material is being fed into the plant where practicable (whilst avoiding continuous shutting down and restarting of plant)
- 8.1.5 A maintenance programme will be in place covering all equipment with significant impact on the plant's energy consumption or energy conservation.
- 8.1.6 Basic low-cost physical techniques should be in place to avoid gross inefficiencies. These should include insulation, containment methods, (such as seals and self-closing doors), and avoidance of unnecessary discharge of heated water or air (e.g. by fitting simple control systems such as timers and sensors).
- 8.1.1 Energy consumption information will be recorded annually and usage reviewed with a view to reducing energy consumption further.

9. ACCIDENTS

- 9.1.1 An Amenity and Accidents Management Plan has been prepared which considers the risk of emissions in relation to possible accidents, fugitive emissions, odour and noise and vibration and identifies suitable control measures to mitigate any consequences. The risk assessment is provided as a separate part of this application.
- 9.1.2 The Managment System, for the Site (Doc Ref 2875-012-A v5.1 dated 27 Aug 2015) also includes a Fire Prevention and Response Plan (Doc Ref 2875-012-J v1.1 dated 16 March 2015) that outlines fire hazards on site and identifies suitable control measures to help prevent and mitigate any consequences.
- 9.1.3 The Managment System also includes written procedures for handling, investigating, communicating and reporting actual or potential non-compliance with operating procedures or emission limits, and also reporting environmental complaints and implementation of appropriate actions.

10. CLOSURE

- 10.1.1 A Site Condition Report has recently been prepared to support a planning application that describes the environmental setting and describes historical activities at the site.
- 10.1.2 Thorncliffe has in place a system for recording of any incidents, such as spillages that may have led or could lead to ground contamination, and the actions taken.
- 10.1.3 There will be no underground tanks or pipework (with the exception of the connection to the sewer).
- 10.1.4 A Site Closure Plan will be produced to demonstrate that, in its current state, the installation can be decommissioned to avoid any pollution risk and return the site of operation to a satisfactory state. The plan will be kept updated as material changes occur.



Registered Office: Intec, Parc Menai, Bangor, Gwynedd, LL57 4FG

Tel: 01248 672666

Fax: 01248 672601

Email: contact@caulmert.com

Web: www.caulmert.com