

# Caulmert Limited

Engineering, Environmental & Planning  
Consultancy Services

**Riverside Waste Transfer Station**

**Williams Environmental Limited**

**Environmental Permit Application**

**Process Description & Appropriate Techniques including BAT Review**

**Prepared by:**

**Caulmert Limited**

**Office:** Strelley Hall, Main Street, Strelley, Nottingham, NG8 6PE

**Tel:** 01773 749 132

**Email:** [andystocks@caulmert.com](mailto:andystocks@caulmert.com)

**Web:** [www.caulmert.com](http://www.caulmert.com)

**Document Reference:** 5195-CAU-XX-XX-RP-V-0304.A0.C2

July 2023



**APPROVAL RECORD**

<b>Site:</b>	Riverside Waste Transfer Station
<b>Client:</b>	Williams Environmental Limited
<b>Project Title:</b>	Environmental Permit Application
<b>Document Title:</b>	Process Description & Appropriate Techniques including BAT Review
<b>Document Ref:</b>	5195-CAU-XX-XX-RP-V-0304.A0.C2
<b>Report Status:</b>	<b>Final</b>
<b>Project Manager:</b>	Andy Stocks
<b>Caulmert Limited:</b>	Strelley Hall, Main Street, Strelley, Nottingham, NG8 6PE

<b>Author</b>	Samantha Hayden Environmental Consultant	<b>Date</b>	28/11/2022
<b>Reviewer</b>	Andy Stocks Director of Environment	<b>Date</b>	15/12/2022
<b>Approved</b>	Andy Stocks Director of Environment	<b>Date</b>	15/12/2022

Revision Log			
Revision	Description of Change	Approved	Effective Date
C1	Initial Release	AS	19/12/2022
C2	Updated as per EA Request for More Information	AS	11/07/2023

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**5195-CAU-XX-XX-DR-V-1800** Site Layout Plan

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**Appendix 1** Environmental Sampling Plan

**Appendix 2** Operational Procedure 24 – Spillage of Chemical Waste During Transport

## 1.0 INTRODUCTION

### 1.1 Application Context

- 1.1.1 Williams Environmental Limited (hereafter referred to as ‘the operator’) have appointed Caulmert Limited to prepare a Bespoke Environmental Permit application for a new Hazardous Waste Transfer Station located on the Riverside Industrial Estate off Oliver Road, West Thurrock, Grays, at postcode RM20 3EF.
- 1.1.2 The operator currently operates a facility identical to that proposed at Unit 3 Charles Street Industrial Estate in Silvertown, London, under Environmental Permit ref. EPR/WP3336SA, however the land on which it is situated is subject to a compulsory land purchase order and so the operator has to relocate the facility before November 2023.
- 1.1.3 The current facility has operated for over 20 years in Silvertown and the operator has reported that they have a very good permit compliance record with no history of complaints.
- 1.1.4 The land on which the applicant proposes to relocate will eventually form part of a wider development comprising a large ‘state of the art’ tanker washing facility, not linked to the permitted activity, but this affects its final location and footprint within the site.
- 1.1.5 The area of land subject to this application has recently received planning consent for this proposed development, however a further Planning Application is to be submitted in the new year for the wider development that (subject to approval) will result in the eventual relocation of the transfer station within the site that will require a further Permit Application.
- 1.1.6 It is envisaged that the waste transfer station will remain on the area of land proposed by this application for a period of 18-24 months before relocation to its final position.

### 1.2 Report Overview

- 1.2.1 This report includes a description of the proposed activities and an assessment in line with the following:
- ‘Best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council’, from the Official Journal of the European Union <sup>1</sup>;
  - Environment Agency (EA) guidance ‘Chemical waste: appropriate measures for permitted facilities’ published November 2020 <sup>2</sup>.

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<sup>1</sup> Commission implementing decision (EU) 2018/1147 of 10 August 2018. Establishing best available techniques (BAT) conclusions for waste treatment, under Direction 2010/75/EU of the European Parliament and of the Council: [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L\\_.2018.208.01.0038.01.ENG&toc=OJ%3A2018%3A208%3ATOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2018.208.01.0038.01.ENG&toc=OJ%3A2018%3A208%3ATOC)

<sup>2</sup> Environment Agency, 18 Nov 2020: <https://www.gov.uk/guidance/chemical-waste-appropriate-measures-for-permitted-facilities>

1.2.2 Indicative BAT standards are laid out in the BAT Conclusions (updated August 2018) for setting permit conditions for installations covered by Chapter II of Directive 2010/75/EU and their set emissions limit values to ensure that under normal operating conditions, emissions do not exceed emissions levels associated with the best available techniques as laid down by the BAT conclusions. The technical standards for the proposed site against BAT Conclusions are detailed within Section 10 'Review against BAT standards' with reference to the BAT conclusions for waste treatment industries (BREF), under Directive 2010/75/EU, from the Official Journal of the EU.

1.2.3 A general process description for the treatment activities is provided in Section 2.0 of this report. Further information on waste acceptance, storage, handling, bulking and repackaging are provided in Sections 4.0 and 5.0.

### **1.3 Principle of Operation**

1.3.1 The operator already has a permit at their current site, Unit 3 Charles Street Industrial Estate, Silvertown, for this operation, however a permit cannot be moved from one location to another, therefore this permit application is to apply for a new bespoke waste installation permit for the new hazardous waste transfer station at Riverside Industrial Estate.

1.3.2 This application involves a Waste Installation application for a Hazardous Waste Transfer Station for the following listed activities:

- Section 5.3 A (1)(a)(iv) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging.
- Section 5.3 A (1)(a)(ii) Disposal or recovery of hazardous waste involving physico-chemical treatment of hazardous waste (not exceeding 10 tonnes per day but associated with the above activity).
- Section 5.6 Part A (1)(a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Section 5.1, 5.2 and 5.3.

1.3.3 It is also proposed to add the following waste operation to cover small quantities of non-hazardous wastes to be accepted at the site:

- Non-hazardous Household, Commercial and Industrial Waste Transfer Station

1.3.4 The activity will involve the temporary storage of hazardous and non-hazardous waste, prior to bulking and repackaging for subsequent transfer off-site for further treatment or disposal. In addition, activities at the site will include the scraping and emptying out of residues from containers and a drum crushing operation. Emptied containers and crushed drums from hazardous waste will be sent off site for further treatment. Containers and drums that had non-hazardous waste in will be sent straight for recycling at the appropriate facility.

## 2.0 PROCESS DESCRIPTION

### 2.1 Overview

- 2.1.1 The operator, Williams Environmental Limited, proposes to accept up to 25,000 tonnes per annum (tpa) of hazardous and non-hazardous wastes at the new Riverside Waste Transfer Station site ('the site'). The total storage capacity of the site at any one time will be up to 820 tonnes.
- 2.1.2 The installation will involve the temporary storage of hazardous and non-hazardous waste, prior to bulking and repackaging for subsequent transfer off-site for further treatment or disposal. In addition, activities at the site will include the scraping and emptying out of residues from containers and a drum crushing operation. Emptied containers and crushed drums from hazardous waste will be sent off site for further treatment. Containers and drums that had non-hazardous waste in will be sent straight for recycling at the appropriate facility.
- 2.1.3 All hazardous and non-hazardous waste reception, storage, repackaging, and drum crushing operations will be undertaken in areas with concrete surfacing and where appropriate, fully bunded. Repackaging and bulking of hazardous and non-hazardous wastes will be undertaken on-site and will consist of stacking, packing and palletising sealed containers or bulk items of wastes, ready for transfer off-site. Where containerised wastes that are likely to give rise to odours or VOCs emissions are required to be opened and transferred to other larger containers, this will be undertaken inside the enclosed fully bunded building. This building will be fitted with air extraction to maintain a negative pressure inside and an activated carbon filter will remove odour and VOCs from air leaving the building. The building will be 3-sided, with the fourth side fitted with an external PVC strip door curtain. Repackaging and bulking of wastes not likely to give rise to emissions will be undertaken outside in designated concrete storage bays. The main storage and treatment area will be covered by a steel-framed canopy, accessed via a ramped area with sleeping policeman. Some wastes such as general waste, asbestos waste, scrap metal and pigeon guano, will be stored in enclosed skips/RORO containers.
- 2.1.4 The following operational procedures by William's Environment Limited will be applied at Riverside Waste Transfer Station and are referenced throughout this document:
- Environmental Sampling Plan (Appendix 1)
  - P1 – Enquiries and Pre-Acceptance of Waste
  - P2 – Order Execution, Planning and Control
  - P3 - Collections
  - P4 – Waste Receipt and Control
  - P5 – Waste Inspection and Categorisation
  - P6 – Waste Storage
  - P7 – Waste Consolidation
  - P8 – Bulk Liquid Removal
  - P9 – Packaged Waste Removal

- P10 – Non-Conforming Waste Protocol
- P11 – Laboratory Smalls
- P13 – Flammable Waste Bulking
- P14 – Transport of Wastes
- P15 – Reporting of Environmental Incident, Accident or Near-Miss
- P16 – Risk Assessments
- P17 – Battery Operator Training
- P18 - Drum Crushing Operation
- P19 – Inspection and Testing of Equipment and Records
- P20 – Complaints Procedure
- P21 – Approval of Contractors
- P22 – Receipt, Storage and Removal of Asbestos
- P23 – Transfer of Wastes Off Site
- P24 – Spillage of Chemical Waste During Transport (Appendix 2)
- P25 – Scraping and Emptying Out of Residues from Containers

2.1.5 All of the above procedures will be incorporated into the Environmental Management System for the site.

## 2.2 Site Layout

2.2.1 The proposed site layout of the Riverside Waste Transfer Station is shown in attached drawing ref. 5195-CAU-XX-XX-DR-V-1800 and site infrastructure and bays are listed in Table 1 below:

**Table 1 – Index to Site Layout Plan**

Bay	Waste Stream	Capacity pallets	Max Tonnage	Hazard codes	ADR Class
1A	Oxidising Agents containing Acids	1	1.5	HP2,HP4,HP5,HP8, HP14	5, 8
1B	Oxidising Agents	4	4	HP2,HP4,HP5,HP8, HP14	5
1C	Organic Peroxides	1	1	HP2,HP4,HP5HP8, HP14	5.2
1D	Water Reactive	1	1	HP3,HP4,HP5,HP8	4.3
1E	Solvent Vials	6	3	HP3,HP6,HP10,HP11	3, 6.1
2	Waste Reception Area	60	60	All HP Codes	3,4.1,4.2,4.3, 5.1,5.2,6.1, 8, 9
3	Low Hazard Waste	60	60	HP4,HP5,HP6, HP14	9
4	Oily Rags	60	60	HP3, HP4,HP5,HP7,HP10,HP14	3, 9
5	Flammable Solids, Adhesives and Resins	60	60	HP3,HP4,HP5,HP6,HP8	3, 4, 8
6	Flammable Solvents, Paints and Resins	60	60	HP3,HP4,HP5,HP6,	3, 4, 6.1
7	Oil/Water	60	60	HP3,HP4,HP5,HP7,HP10,HP11 ,HP14	9
8	Toxic Solids/Liquids, Lab Wastes, Agrochemicals	40	40	HP4,HP5,HP6,HP7,HP8, HP10,HP11,HP14	6.1, 8, 9



9	IT Communication and Household WEEE	40	40	HP5,HP6,HP7,HP14	9
10	Waste Batteries	40	40	HP3,HP4, HP5,HP6,HP14	4.3, 6.1, 9
11	Fridges and Fluorescent tubes, and Lamps	60	30	HP14	9
12	Acids	40	40	HP2,HP4,HP5,HP6,HP8	3, 5.1, 8, 6.1, 8, 9
13	Empty Packaging and Environmental Hazards	40	20	HP3,HP6,HP8,HP14	9
14	Alkali Waste, Caustic, Ammonia and Cyanides	40	40	HP4,HP5,HP6,HP8,HP14	5.1, 6.1, 8, 9
15	Bleach and Oxidising Liquids	40	40	HP2,HP8,HP14	5.1, 8, 9
16	Reception, Inspection, and Sorting	40	40	All HP Codes	3, 4.1, 4.2, 5.1, 5.2, 6.1, 8, 9,
17	Quarantine Bay, Spare Reception	40	20	All HP Codes	3, 4.1, 4.2, 5.1, 5.2, 6.1, 8, 9,
18	Emissions filtered bulking area	8	4	HP2,HP3,HP6,HP7,HP10,HP8, HP11,HP9	3, 5.1, 6.1, 8, 9
	<b>Skip area</b>				
19	General Waste - Roll-on bin	35	20	Non Haz	N/A
20	Asbestos – enclosed Roll-on bin	35	20	HP7,HP14	9
21	Scrap Metal - Roll-on bin	40	20	Non Haz	N/A
22	Pigeon Guano – covered skip	20	10	Non Haz	N/A
	<b>Gas Cylinders - Metal cages, Drums and Waste safes</b>				
23	Misc Gases including Aerosols, Butane, Propane and other Hazardous and Non Hazardous Gases	20	20	HP2,HP3,HP6,HP8,HP14	2.1, 2.2, 2.3, 3, 6.1, 9
24	Acetylene Gas	4	2	HP3	2.3
	<b>Inside Bay 18</b>				
25	Emergency Shower				
26	Drum Crusher				
	<b>Non Waste Areas</b>				
27	Consumable storage, empty drums and IBC's				
28	Fork lift truck parking and charging/refuelling area				
29	Fuel storage – on a bunded IBC				
30	Laboratory				
31	Office and toilet				
32	Quarantine Area in Event of Fire				

### Northern Area

- 2.2.2 The site will be accessed via a lockable gated entrance on the northern perimeter, with a 2m high palisade security fencing (or similar) around the perimeter. The site surface will be of existing impermeable concrete surfacing, with existing surface water drainage to be retained.
- 2.2.3 One half of the site (the northern portion) will contain the site office and welfare facilities, staff and visitor car parking, laboratory and fully bunded refuelling area and forklift parking ('Non-Waste Areas numbered 27-31 in Table 1).
- 2.2.4 This area will also house the skip area for non-hazardous wastes such as general waste and scrap metal, and also other wastes such as pigeon guano and asbestos in enclosed roll-on bins and skips ('Skip Area' numbered 19-22 in Table 1). Gas cylinders, drums and steel cages of miscellaneous gases including aerosols, butane, propane and other hazardous and non-hazardous gases (including flammable gases) and canisters of acetylene gas will be stored within an external storage area in waste safe boxes and a lockable metal cage (numbered 23 and 24 in Table 1).

### Southern Area

- 2.2.5 The other half of the site (the southern portion) is accessed via a ramp (sleeping policeman) into the concreted vehicle unloading area and will comprise a fully covered, bunded area, where hazardous wastes will be unloaded, inspected, sorted and repackaged into designated concrete storage bays around the perimeter of the site.
- 2.2.6 The southern area will be fully surfaced with impermeable concrete and all storage bays will be constructed of concrete floors and three concrete walls, with low bunds on the fourth side at the front (i.e. sleeping policeman) to allow access for storing wastes. Any collected liquids from leaks, spills or accidents will be removed from bunded areas prior to suitable disposal at a licensed facility.
- 2.2.7 The southern portion of the site will be sheltered by a steel-framed canopy to provide protection from wind and rain, and to prevent rainwater collecting in the bunded areas. Rainwater from roofs on site will be directed to existing surface water drainage infrastructure.
- 2.2.8 Repackaging and bulking of hazardous and non-hazardous wastes will be undertaken on-site and will consist of stacking, packing and palletising sealed containers or bulk items of wastes, ready for transfer off-site. Where containerised wastes that are likely to give rise to odours or VOCs emissions are required to be opened and transferred to other larger containers, this will be undertaken inside the enclosed building. The building will be a fully enclosed 3-sided bunded building with the fourth side fitted with an external PVC strip door curtain. The building will be installed with air extraction maintaining a negative pressure within the building, and an activated carbon filter. The carbon filter will ensure volatile organic compounds (VOCs) and odours are removed from the air prior to leaving the building.

- 2.2.9 A drum crusher will be located in a fully bunded area in Bay 18 in the southern portion of the site, for crushing empty metal drums up to 205 litres in size. Crushed drums will then be stored in a Roll-on Roll-off (RORO) container awaiting removal from site. Drums that previously contained hazardous liquids will be treated as hazardous waste and will be sent for further treatment/cleaning to remove residues. Crushed drums that only contained non-hazardous waste will be sent directly for recycling at an appropriate facility.
- 2.2.10 On the attached site layout plan (ref. 5195-CAU-XX-XX-DR-V-1800) there are 18 storage bays in the southern area, with Bay 1 further split into bays 1A, 1B, 1C, 1D and 1E for storing containers of oxidising agents, peroxides, water reactive substances and solvents. Bay 2, 16 and 17 are for waste reception and sorting, with Bay 17 also reserved as a quarantine area. The remaining bays are for storing a range of containerised waste types in IBCs, drums and other containers and sealed bags, which include oily rags, flammable substances, toxic substances, chemicals, waste electrical and electronic equipment (WEEE), batteries, fridges, fluorescent tubes, empty packaging and other acids and alkaline wastes, among others. Bay 18 contains the enclosed repackaging and bulking building with air extraction, but also the emergency shower and the drum crusher. Liquid wastes will be stored in individual containers that are closed to ensure the contents do not escape or release vapours or odours.
- 2.2.11 Storage bays will typically measure between 6-8m wide at the front opening, and 12m deep. Some bays such as Bay 6 and 11 will be much larger, or smaller (bays 1A-E). Concrete storage bay walls will be constructed up to 2.2m high, with a sleeping policeman or similar across the front of the bay to contain leaks or spills.

### **2.3 Temporary Hazardous and Non-Hazardous Waste Storage**

- 2.3.1 Wastes awaiting repackaging/bulking or awaiting transfer off-site will be stored in designated storage bays within individual containers, bulked up in larger IBC type containers or drums or within designated skips or RORO containers/skips.
- 2.3.2 Wastes to be accepted, bulked and temporarily stored on site include, but are not limited to the following, as shown on the site layout plan (for the full waste list see Appendix 5 of the Supporting Document):
- Oxidising agents containing acids
  - Oxidising agents
  - Organic peroxides
  - Water reactive wastes
  - Solvent vials
  - Low hazard wastes
  - Oily rags
  - Flammable solids, adhesives and resins
  - Flammable solvents, paints and resins
  - Oil/water wastes
  - Toxic solids/liquids, lab wastes and agrochemicals

- IT communication and household WEEE
- Waste batteries (including lithium batteries, car batteries, household waste batteries)
- Fridges and fluorescent tubes, and lamps
- Acids
- Empty packaging and environmental hazards
- Alkali waste, caustic waste, ammonia and cyanides
- Bleach and oxidising liquids
- General mixed waste (incidentals/rejects)
- Asbestos (bagged and cement bound)
- Scrap metal
- Pigeon guano
- Miscellaneous gas cannisters including Aerosols, Butane, Propane and other hazardous and non-hazardous gases (including flammable gases)
- Acetylene gas cannisters

2.3.3 See Section 5.0 of this report for further information on waste storage and handling of individual waste streams.

## **2.4 Bulking and Repackaging Operation**

2.4.1 Repackaging and bulking of hazardous and non-hazardous wastes will be undertaken on-site and will consist of stacking, packing and palletising sealed containers or bulk items of wastes, ready for transfer off-site. This will be largely undertaken outside in the concrete storage bays under the canopy roof and will be unlikely to release odours. Where containerised wastes that are likely to give rise to odours or VOCs emissions are required to be opened and transferred to other larger containers, this will be undertaken inside the enclosed building, which will be fitted with air extraction and activated carbon filter to remove odour and VOCs from air leaving the building. Wastes that may give rise to odour or vapour emissions (VOCs) that will be repackaged inside the building may include for example hazardous liquids such as solvents, paints, oils etc. The building will be a 3-sided bunded building with the fourth side an external PVC strip door curtain. The building will be installed with air extraction maintaining a negative pressure within the building, and an activated carbon filter. The carbon filter will ensure volatile organic compounds (VOCs) and odours are removed from the air prior to leaving the building. It is anticipated that bulking and repackaging operations within the building will typically be undertaken for around 1 hour per day, so potential emissions from wastes will not be continuous and will be mitigated by the carbon filter.

2.4.2 Bulking and repackaging will consist of transferring the contents of numerous smaller containers of one type of waste (for example paint) into larger containers of the same or similar type of waste before being sent off site for further treatment or disposal. Wastes repackaged in this way will be checked and supervised by the chemist on site to ensure the mixing of wastes does not result in chemical reactions or mixing hazardous with non-hazardous waste. All wastes will be characterised at reception on site and so the chemical compositions of wastes will be known and documented prior to bulking. Pouring or transferring the contents of one container of waste to another will be done manually by

trained site operatives for smaller containers i.e. up to 25 litres, but for larger containers such as 205 litre drums and IBCs, a forklift will be used.

2.4.3 See Section 5.0 for further information on the bulking operation.

#### ***Scraping and Emptying Residues***

2.4.4 The scraping and emptying of residues forms part of the bulking operation. Before a container can be sent away for recycling the container must be empty of wastes or as free of residues as possible within a reasonable time and easy method.

2.4.5 The residues of liquids and solids can be poured out of their containers into vessels of substances of similar composition/hazard, or scraped out, emptied and wiped clean.

2.4.6 Once emptied and cleaned to an extent, the containers can be sent for further treatment (if hazardous) or direct for re-use or recycling (non-hazardous).

2.4.7 As an example, if 5 drums of 205 litres arrive all with 20% residues, these 5 drums can be poured or scraped out into one drum full of residues leaving 4 x 205 litre empty containers and 1 x 205 litre full drum of waste.

2.4.8 See Section 5.0 for further information on the scraping and emptying of residues operation.

### **2.5 Drum Crushing Operation**

2.5.1 The drum crushing operation will be undertaken outside in Bay 18, under the cover of the roof canopy, by competent trained site operatives who have undergone site specific training (as detailed in Section 3.2 of this report) in the drum crushing operation.

2.5.2 The drum crushing operation involves crushing empty metal drums, previously used to store wastes such as oil, liquid or chemicals. The drums will be up to 205 litres in size, and will be crushed using a hydraulic operated crusher, to reduce the volume of the drums for easier storage, handling and transport. The drum crusher will be powered by electricity and will operate with up to a 15-tonne crushing force. The drum crusher will compact the drum into an approximately 75mm high disc in less than a minute. It is anticipated that drum crushing will be undertaken typically for no more than 1 hour per day, depending on volumes of empty drums to be crushed on site.

2.5.3 In accordance with operational procedure 'P18 – Drum crushing operation', the drum crushing operation consists of the following steps:

- Ensure correct PPE is worn.
- Inspect the machine for any damage.
- Check drum to be crushed have only nominal residue.
- Place the drum under the crusher.
- Ensure the safety door is shut while starting the drum crusher.

- Remove the crushed drum being aware of sharp edges and any liquid that may seep out.
- Dispose of crushed drum to the correct Roll-on bin.

2.5.4 See Section 5.0 for further information on the drum crushing operation.

## **2.6 Site Drainage**

2.6.1 The entire site benefits from existing concrete surfacing. Clean surface water run-off from roofs and also from the site surface of the northern part of the site (skip storage area, car park etc.) will be directed into the existing surface water drainage system via interceptor, to a culvert for discharge into nearby surface water courses.

2.6.2 Contaminated and hazardous liquids collected in bunded areas on site from leaks, spills or other accidents, will be pumped out and sent off-site for disposal. Bunded areas shall have sufficient capacity (i.e. no less than 110% volume) to retain the possible spillage of the largest container being stored (typically a 1000 litre IBC).

2.6.3 Fire waters generated in the event of a fire will be fully contained within the bunded area in the southern area of the site and will be pumped out and sent to a suitable licenced disposal facility. Fire waters in the northern area will be prevented from leaving the site by the perimeter kerbing and closed stop valve in the site drainage system.

## 3.0 GENERAL MANAGEMENT

### 3.1 Management System

3.1.1 The operator has implemented an environmental management system to control the operations at their sites.

3.1.2 The management of the operation will be in line with ISO14001:2004 standard for environmental management. A copy of the certification and a Management System Summary is detailed in Appendix 4 of the Supporting Document for this permit application.

3.1.3 In summary the site management system will contain:

- A full maintenance schedule for all machinery and equipment on site.
- Documented procedures to control all aspects of the operation that may have an impact on the environment, including contingency and operational methods which are to be undertaken in the event that there is a plant breakdown, or activities that could lead to unacceptable emissions.
- Well documented procedures for monitoring emissions and impacts including the use of a daily site log. All monitoring will occur in accordance with the Environmental Management plans.

3.1.4 The site will undertake a preventative maintenance programme where site plant and infrastructure will be inspected on a daily, weekly and monthly basis in accordance with written procedures.

3.1.5 Training systems will be in place for all employees which will include:

- Relevant operations undertaken on site;
- Management techniques to be employed for all aspects of waste treatment which are relevant to their position;
- Reporting any abnormal events;
- Contingency measures in place to prevent breaches of the Environmental Permit in the event of abnormal weather conditions; and,
- Contingency measures to be taken in the event that accidental emissions are released to the environment.

3.1.6 The operator will only appoint suitably qualified contractors, and all purchasing of equipment and materials will be undertaken in accordance with the management system.

***Identifying and minimising risks of pollution***

- 3.1.7 The management system includes measures that will be taken to manage fugitive emissions. An Amenity and Accidents Risk Assessment under document reference 5195-CAU-XX-XX-RP-V-0302 has been included to support the permit application.
- 3.1.8 The risk assessment was also used as a tool for identifying the risk management measures that are important in minimising the risks of pollution. The identified risk management measures are considered to be the minimum technical standards which the site should operate to.
- 3.1.9 A plan showing the sensitive receptors around the site has also been prepared under drawing 5195-CAU-XX-XX-DR-V-1801, attached to the Amenity and Accidents Risk Assessment.

**3.2 Staff Competence & Training**

- 3.2.1 The staff training requirements and records in relation to the operations undertaken at the site will be kept as part of the Environmental Management System for the site. Site staff will be trained by senior management or, in the case of certain operations, by an external trainer, in the relevant activities they will be undertaking on site. All operations on site will be overseen by a trained member of staff.
- 3.2.2 All staff members at the site will undergo a standard employee site induction by a senior member of site management, which includes:
- General introduction to Williams Environmental.
  - Fire/emergency and evacuation awareness.
  - First aid and the reporting of accidents.
  - Health and safety, company policy, employee responsibility and near-miss reporting.
  - COSHH (control of substances hazardous to health).
  - Environmental awareness training.
  - Manual handling.
  - DSE regulations (display screen equipment training for working in the office).
- 3.2.3 Operation-specific training will be undertaken by staff employed for certain tasks. Below are some examples of the training provided to staff employed to repackage batteries (Section 3.2.4) and crush drums (Section 3.2.6). All training received will be signed for by staff and will be recorded in the training matrix of the Management System.

***Battery Operator Training***

- 3.2.4 In accordance with operational procedure 'P17 – Battery operator training', all operatives employed to repackage batteries will receive specific training related to their role in the battery repackaging operation. This training will include:
- Introduction to the Batteries and Accumulators Regulations 2008.



- Operation of the weighbridge.
- Operation of the pallet weigh scales.
- Identification of batteries.
- Safe working with batteries – which will include PPE and manual handling.
- The documentation relating to tonnages and battery types, contamination and segregation.
- The maintenance of FLT (training for the operation and safety of using the FLT will be conducted by an external qualified trainer).

3.2.5 On completion of training each new employee will:

- Have a training file created, as per the Environmental Management System.
- Be issued with an employee handbook.
- Be issued with the relevant pages of Batter Guidance Note GN07 (pages 2-9).
- Be made aware of where the full copy of GN07 can be found.
- Sign to acknowledge receipt and understanding of training.

### ***Drum Crushing Training***

3.2.6 In accordance with operational procedure 'P18 – Drum crushing operation', all operatives employed to crush drums will be inducted and trained by a senior member of management. Drum crushing training will consist of:

- Instruction on PPE to be worn
- Instruction on the operation of the drum crusher
- Demonstration of operation
- Fire/emergency and evacuation awareness
- First aid and the reporting of accidents
- Manual handling awareness

3.2.7 On completion of training each new employee will have an awareness of the hazards of the drum crusher, its limits and its function.

## **3.3 Accident Management Plan**

3.3.1 An Accident Management Plan for the site and site operations will be included within the Environmental Management System for the site. Scenarios covered in the Accident Management Plan include (but are not limited to) the following:

- Incidents causing pollution to land, air or water.
- Spillages/leaks of hazardous substances (liquids, and solids such as asbestos).
- Equipment breakdown.
- Enforced shutdowns.
- Fires.
- Vandalism.

- Flooding.
- Non-conforming waste hazard.
- Any other incident which causes an unexpected change to normal operations, such as extreme weather.

3.3.2 The Accident Management Plan will state the likelihood of an accident happening, the consequences of an accident happening, the measures the operator will take to avoid the accident happening, and the measures they will take to minimise the impact if the accident does happen.

3.3.3 Control measures for reducing potential emissions from accidents is also considered in the Amenity & Accidents Risk Assessment report ref. 5195-CAU-XX-XX-RP-V-0302 of this permit application.

***Reporting an Incident, Accident or Near-miss***

3.3.4 In accordance with operational procedure 'P15 – Reporting of environmental incident, accident or near-miss', any occurrence that causes or has the potential to cause a situation that may be detrimental to the environment or the health and safety of any person is to be recorded, investigated and actions taken to avoid a recurrence.

3.3.5 Any incident, accident or near-miss can be reported verbally to a senior manager of Williams Environmental by any member of staff, visitor or other personnel.

3.3.6 Any manager receiving a report of an incident, accident or near-miss will assess the situation, and ensure that the situation is not going to get worse or be detrimental to the environment or personnel. If the situation is a potential hazard, it must be made safe before investigating or reporting.

3.3.7 The reported incident must be investigated. The manager dealing with the reported incident may choose to appoint another member of staff to investigate if they consider that the other member of staff has more appropriate knowledge or experience to investigate the incident.

3.3.8 On completion of the investigation, the 'Environmental Incident, Accident or Near-Miss Form' must be completed (included within the site's Environmental Management System). All sections of this form must be completed with the exception of the 'cost' section which may not be appropriate. It is essential that the incident details root cause/causes and actions to prevent recurrence are completed in sufficient details to ensure that anyone reading the report can have a very clear understanding of the incident. Photographs may also be used and attached to the form.

3.3.9 The report will be dated and numbered and filed in the SQEMS folder of the management system for the site.

### ***Spillages and Leaks of Hazardous Substances***

- 3.3.10 Spillages of chemical waste during transport will be managed in accordance with the flow diagram presented in operational procedure 'P24 – Spillage of chemical waste during transport', attached in Appendix 2.
- 3.3.11 Spillages or leaks of hazardous substances in the southern part of the site will be contained by the impermeable concrete surfacing and bunding of the storage and handling areas. Therefore, it is unlikely a spillage or leak of a hazardous substance would pose any threat to human health or the environment, being contained.
- 3.3.12 Any spills or leaks will be reported immediately to site management and cleaned up quickly. Spilt liquids that are pumped out of bunded areas will be stored temporarily in suitable containment prior to being sent off-site for disposal.
- 3.3.13 It is very unlikely that spillages or leaks of hazardous substances will occur outside of bunded areas, due to control measures set out in the operational procedures for the site (as part of the Environmental Management System (EMS) for the site). However, if a spillage or leak occurs in a non-bunded area (i.e. the carpark/northern area of the site with concrete surfacing) then the following actions will be taken:
- All spillages of waste shall be logged in the site diary. If a spillage is in excess of 200 litres then the Environment Agency will be informed.
  - If the spillage is from a vehicle during transport across the site, the actions detailed in operational procedure 'P24 – Spillage of chemical waste during transport' will be followed (attached in Appendix 2).
  - If the spillage is from another source, trained staff wearing appropriate PPE will attend to the spillage and contain the spillage using spill kits including spill pads, booms and granules (available around site), to prevent any hazardous liquids leaving site or entering surface water drains. The northern part of the site also benefits from impermeable concrete surfacing and perimeter kerbing so the risk of downward infiltration into the underlying ground is negligible. The source of the hazardous liquid will be identified and once absorbed, the used spill pads and booms will be disposed of appropriately as hazardous waste. If the spillage is larger, specialist vacuum equipment will remove the remaining spillage to a suitable disposal facility. The 'Environmental Incident, Accident and Near-Miss Form' will be filled out by site management and recorded in the site diary. If the spillage or leak breaches any condition in the Environmental Permit i.e. causes pollution to air, water or land, then the Environment Agency will be notified and follow-up actions taken. The Spillage Procedure is included within the Accident Management Plan in the EMS.

***Non-conforming waste hazard***

- 3.3.14 Non-conforming wastes detected on site that may cause a serious hazard to human health or the environment in their delivered state will be handled as per operational procedure 'P10 – Non-conforming waste protocol' (See Section 4.2 of this report).
- 3.3.15 If the cause of the non-conformance is due to incompatibility, the waste will be moved immediately to the quarantine area to remove the hazard. If the waste has the potential to cause harm to personnel it will be cordoned off and the area cleared until the technical manager has assessed the situation and advised on the appropriate actions and notifications.
- 3.3.16 When storing non-conforming wastes in the quarantine area, consideration will be given to the current contents in the storage area, any special instructions on the incoming waste form and the available capacity of the area.
- 3.3.17 When a non-conformance is discovered a member of administration will contact the waste originator immediately and agree an appropriate action, complete a 'Non-Conforming Waste' form and if necessary arrange for the technical manager to take a sample that can be sent for analysis at an approved external laboratory.
- 3.3.18 If the non-conformance breaches any condition in the company Environmental Permit the Environment Agency will be notified.
- 3.3.19 If the waste does not breach the company Environmental Permit and the waste originator is in agreement, the waste can be re-classified in accordance with Section 4.2 above and stored in accordance with Section 5.1 below.
- 3.3.20 The details of any non-compliance which poses a threat to human health, safety or the environment will be recorded on the 'Environmental Incident, Accident & Near-Miss reporting form' and retained in the SQEMS file of the Environmental Management System for the site.

**3.4 Accident Prevention Measures**

- 3.4.1 The accident prevention measures employed on site include, but are not limited to:
- Prevention of pollution to water from spillages – fully bunded hazardous waste storage and handling areas in southern part of site. Spill kits available around site, close to areas likely to encounter spillages i.e. fuel store. Repackaging and bulking of hazardous wastes (pouring liquids etc.) undertaken in enclosed building with air extraction and bunding. Perimeter kerbing and penstock valve in drainage system can be closed in northern area to isolate site from nearby receptors if a spillage occurs.
  - Flooding – the site is located within a Flood Zone 3 with a high probability of flooding; however the site is in an area that benefits from flood defences. The canopy overhead covers the bunded waste storage and handling areas in the southern area to prevent excessive rainwater collecting in bunded areas. Clean surface water run-off drains to surface water features nearby, as per existing drainage infrastructure.

- Fire & arson – concrete bays and flooring is fire resistant to prevent fires spreading. Combustible wastes (i.e. wooden pallets, cardboard etc.) stored in designated areas or a movable skip on concrete surfacing, apart from other containers or waste piles. Flammable liquids stored in sealed containers separately from other wastes. Site gated and with secure perimeter fence to prevent trespass and arson attempts. Explosive and flammable gases stored in canisters within locked metal cage on concrete surfacing. CCTV monitored by site operatives out of hours to detect fires and unauthorised entry to site.
- Vandalism – 2m high perimeter security fence and locked gates out of hours, and CCTV employed on site for security and to alert the operator to attempts of vandalism or trespass.

### ***Risk Assessments***

3.4.2 In accordance with operational procedure 'P16 – Risk assessments', all manual tasks undertaken by Williams Environmental Limited employees will be risk assessed before commencement of the task to ensure protection of employees, other personnel and the environment. The risk assessment will be conducted on the five-step principle:

1. Identify the hazard.
2. Decide who and what might be harmed and how.
3. Evaluate the risks and decide on precautions.
4. Record your findings and implement them.
5. Review your risk assessment and update if necessary.

3.4.3 Risk assessments can be reviewed annually or before any changes are made to a task. Any task that may be considered other than routine will require a method statement before preparing the risk assessment. Method statements will be completed by a member of Williams Environmental management in consultation with those undertaking the task. All risk assessments will be recorded on the standard 'Williams Environmental Risk Assessment Form', included within the site's Environmental Management System.

### ***Maintenance, Inspections and Tests***

3.4.4 In accordance with operational procedure 'P19 – Inspection and testing of equipment and records', all Work Equipment (including electrical equipment) used at work as part of the company's operations will comply with the Provision and Use of Work Equipment Regulations (P.U.W.E.R.).

3.4.5 Before the equipment is introduced into the working environment, an assessment will be made by the General Manager and Health and Safety Advisor in order to ascertain that the equipment is suitable for its intended use., as follows:

- No employee will work with equipment that they have not received specific training for.

- No employee will knowingly misuse work equipment or remove any guards that are in place to minimise specified work.
- All work equipment will be maintained and inspected at suitable intervals either internally by a competent person or by specialist external companies.
- Frequency of maintenance or inspections will be based on manufacturers guidance, acts of legislation and industry best practice.
- All inspections will be recorded with a hard copy left on file.
- If any faults are found stop working the equipment and report the fault to a supervisor.

3.4.6 Maintenance schedules are to be kept to warn of upcoming inspections and tests. Hard copies of maintenance / inspections to be kept on file. Copies of Invoices to be kept on file.

### **3.5 Contingency Plan & Procedures**

3.5.1 Contingency measures for minimising potential impacts on the environment from breakdowns, enforced shutdowns and any other changes in normal operations i.e. extreme weather, are included within the Environmental Management System for the site, which is an ISO14001 and ISO9001 accredited Management System. Contingency management procedures are required to obtain ISO14001 accreditation and as such are included in Section 5.2 'Emergency preparedness and response' and Section 5.7a 'Non-conformity, corrective action and preventive action' of the Management System.

### **3.6 Plant Decommissioning**

3.6.1 It is envisaged that the waste transfer station will remain on the area of land proposed by this application for a period of 18-24 months before relocating to its final position to form part of a wider development comprising a large 'state of the art' tanker washing facility, not linked to the permitted activity, but this affects its final location and footprint within the site.

3.6.2 Therefore, decommissioning of the site will simply comprise emptying all storage bays and the building, removing all wastes, cleaning surfaces and moving all site equipment across to the new location on the wider site. The operator will prepare a Decommissioning Plan for the whole site prior to closure.

3.6.3 There are no tanks (above ground or below ground) on site, and no pipework to be installed that will require specialist cleaning or decommissioning. The existing concrete surface will be left intact. The Decommissioning Plan will simply cover the removal of wastes from the site and the proposed move of site operations and equipment (i.e. forklifts, fuel tank, site office) from this site to another part of the wider site at Riverside.

## 4.0 WASTE PRE-ACCEPTANCE, ACCEPTANCE AND TRACKING

### 4.1 Waste Pre-Acceptance

#### *Customer Enquiry Procedures*

- 4.1.1 In accordance with operational procedure 'P1 – Enquiry and pre-acceptance of waste', it is important that waste acceptance enquiries/orders are clearly defined, documented and reviewed to ensure that customer requirements can be met, and differences are resolved prior to issue/acceptance of the waste loads.
- 4.1.2 On receipt of enquiry, information is entered on to a database log completing the appropriate sections, and attaching a copy of emails, waste lists, any other relevant information pertaining to the quote etc.
- 4.1.3 The enquiry is assessed for acceptability, if necessary, requesting further information from the customer to confirm any points of uncertainty.
- 4.1.4 The database log is then updated to record that further information is required or if a sample is required submit sample for laboratory analysis.
- 4.1.5 The operator then needs to ensure that disposal routes/equipment/personnel are available to complete the works, and to consult suppliers (3rd Parties) where necessary and obtain firm quotation in writing. All relevant information to be held against enquiry number on system for reference if needed.
- 4.1.6 Once everything has been checked/received and all points covered then a quotation can be raised and sent to the customer, based on the information supplied/given. Where necessary the operator will stipulate conditions of supply on the quotation.
- 4.1.7 A PDF copy of the quote is scanned and any other relevant information to the quotation is to be uploaded onto system and a copy of the quote to be forwarded to customer via e mail. Any items on the enquiry which do not have a pre-determined disposal route must be excluded from the offer given.
- 4.1.8 Then the order is checked received against quotation issued ensuring all details are correct. It is the up to the operator to resolve any differences between the order and the quotation with the customer prior to acceptance of wastes and then updated on system accordingly. All orders taken should be received in writing.
- 4.1.9 On acceptance of order, the database is then updated. A Sales Order is raised on Verify cross referencing enquiry number and to include any special instructions etc.

### ***Testing and Sampling of Incoming Wastes***

- 4.1.10 The objective of attached operational procedure 'Environmental Sampling Plan' (attached in Appendix 1), is to identify when sampling is required, document the methods of sampling and recording of samples and the interpretation of results.
- 4.1.11 The operator is required to assess the chemical composition of wastes for the following reasons:
- Basic Characterisation of Wastes
  - Compliance testing
  - On site verification
  - Outgoing load composition
- 4.1.12 Other tests will be carried out to check that wastes can be mixed together safely without chemical reaction and to identify non routine wastes such as asbestos.
- 4.1.13 This will be achieved by use of Laboratory analysis from clients, 3rd party disposal sites and tests carried out at Williams Environmental, including at the laboratory on-site. The laboratory on site will consist of a room with fume cupboard, which will be located within a building in the northern area of site that also houses the fuel store and forklift overnight parking.
- 4.1.14 A William's representative will often sample a waste at the enquiry stage or receive wastes from a waste producer. The chemist will decide whether to test the wastes on site or send them to another laboratory.

#### Sampling Methods

- 4.1.15 When sampling liquids, the operative will ensure a representative sample includes all liquid phases and sludges.
- 4.1.16 When sampling solids the operative will ensure the sample is taken from at least 6 separate areas of the solid.
- 4.1.17 For contaminated soils, the sample will be taken from 6 different areas, and if the sample is to be combined, shake/stir the mixture well.
- 4.1.18 For outgoing waste loads, only sample after loading and obtain a sample from the vehicle.

#### Basic Waste Characterisation

- 4.1.19 This refers to the analysis either supplied in advance by the waste producer, analysis performed off site by a private laboratory or 3rd party disposal site and basic tests performed on site by the Williams chemist. Examples of where this analysis is appropriate:
- Initial investigation of wastes that have no data sheet
  - Mixtures of liquids



- Contaminated soils

4.1.20 The results will be used to determine the Hazard codes of the waste and hence its EWC code, disposal route and cost.

4.1.21 Tests to be performed or analysis received from offsite labs depend on the materials to be tested:

Waste Description	Useful Tests	Comments
Liquids	pH, flammability, TOC, acidity	consider mix test with current bulkable wastes
Soils	TPH, PAH, metals, pH, cyanide, TOC	If hazardous then full WAC test required prior to hazardous landfill disposal
Oils	water content, oil content, viscosity, solids	Look for layers, miscibility with water, solids

4.1.22 The tests are to be recorded in the Laboratory Notebook and results filed accordingly for future use.

#### Compliance Testing

4.1.23 Compliance testing is required where regular wastes require a periodical check to see that they conform to the current waste classification, and where there are thresholds set, to check that these have not be exceeded. Compliance testing consists of the following:

- Repeat wastes from customers are checked to see that they still conform and there has not been a change in process and therefore waste classification, i.e. for drilling fluids, waste oils and acids/alkalis.
- On site tests the operator may consider relevant include pH, water miscibility, viscosity, flammability, odour, colour, and solid content.
- The tests are to be recorded in the Laboratory Notebook.

#### On-Site Waste Verification

4.1.24 These are confirmatory checks on-site only, not a stand-alone hazardous waste assessment. The tests may include:

- Identification of visually non-conforming wastes in bulk containers.
- Check of key relevant characteristic, e.g. pH, colour or odour.
- The tests are to be recorded in the Laboratory Notebook.

### Outgoing Load Verification

- 4.1.25 Waste which leaves site in bulk tankers/vehicles are to be sampled, then if there is a discrepancy in the waste description or cost then these can be verified with a test of our sample. Waste samples should be kept for 3 months.

### Mixing Tests

- 4.1.26 Mixing test to confirm substances are compatible to be mixed/bulked, i.e. no heat, fumes or chemical reaction will occur. Consider use of thermometer, pH meter and also look for colour change and any fumes generated. The tests are to be recorded in the Laboratory Notebook.

### Laboratory Wastes

- 4.1.27 Test can be carried out on unknown wastes these can come from either the client not knowing what they have or a container label becoming unattached during transit. For liquids, the operative will observe and test for colour, odour, pH, and when the generic nature of the waste is confirmed i.e. as a solvent, acid alkali etc, then try a mixing test with bulk wastes in a small amount before deciding on the final disposal route. Unconfirmed unknown substances should not be brought to site.
- 4.1.28 Tests on liquids wastes can be carried out prior to bulking, i.e. HPLC waste may be acidic and below a pH of 3 would be unsuitable to be bulked with the mixed flammable solvents.

### Asbestos Wastes

- 4.1.29 Wastes suspected to be contaminated or containing asbestos cannot be analysed at Williams Environmental's laboratory, however there are numerous sites which test for asbestos at small cost <£25.
- 4.1.30 Only a small sample is needed, about the size of a thumbnail and these are examined under an electron microscope by an accredited external laboratory.

### Samples sent away for Analysis

- 4.1.31 Samples sent for analysis at the 3rd party laboratory i.e. currently the Red Industries laboratory, will be recorded in the Sample Analysis Records Book and a Waste Declaration Document completed. Feedback or results will be filed in the sample analysis records book folder with the original waste declaration.
- 4.1.32 A copy of the Waste Declaration giving details such as composition, physical state, volumes, pH and signed by a William's employee will accompany the waste.

## 4.2 Waste Acceptance

### *Waste Inspection and Categorisation*

- 4.2.1 In accordance with operational procedure 'P5 – Waste inspection and categorisation', waste materials are inspected following receipt to ensure they correspond with the details provided on the consignment / transfer note. In addition, they are categorised to enable safe storage / consolidation.
- 4.2.2 Received loads will be inspected and categorised as soon as is reasonably practicable by the Yard Manager or the technical manager.
- 4.2.3 Before inspecting the contents of any container reference will be made to the 'Product Control Form (PCF)', contained within the site's Environmental Management System, which will advise on any special requirements when inspecting. If no special requirements are specified, standard Personal Protective Equipment (PPE) will be worn. Standard PPE is as follows:
- Appropriate eye protection.
  - One piece overalls.
  - Green nitrile gauntlets.
  - Steel toe cap boots/wellingtons.
- 4.2.4 The contents of all containers over 25 litres or kg capacity are compared against the expected properties of the stated material by reference to either/or some of the following:
- Physical state (solid, liquid or gas).
  - pH obtained from universal indicator paper or calibrated pH meter.
  - Flammability.
  - Appearance – colour, viscosity.
  - Odour.
  - Drum markings/labelling.
  - Information supplied with or on incoming waste form.
  - Personal experience.
- 4.2.5 Samples will be taken using a dip tube to obtain a representative sample. All containers will be resealed after sampling.
- 4.2.6 If the inspecting chemist is in any doubt as to the classification of a particular container or whether the waste meets with the appropriate waste acceptance criteria, site management shall be informed immediately, and the non-conformance procedure followed (see Section 4.4).
- 4.2.7 If the inspecting chemist is satisfied that the classification is correct and the waste meets the waste acceptance criteria, they mark the waste container with the classification code and appropriate disposal code.

- 4.2.8 Upon completion of the inspection the incoming waste form will be completed by the inspecting manager and returned to the main office.

***Waste Receipt and Control***

- 4.2.9 In accordance with operational procedure 'P4 – Waste receipt and control', all waste materials entering site are subject to inspection, sorting and labelling prior to storage to ensure compliance with Environmental Permit.
- 4.2.10 Delivery vehicles will enter site via the gated entrance. Upon arrival of waste delivery vehicle technical staff will ensure that:
- The driver is aware of site rules and that these rules will be adhered to.
  - The driver can provide consignment note / transfer note which corresponds to the load and all relevant sections are completed and legible.
  - The consignment of waste is expected /arranged by management.
  - Consignment / transfer note does not describe any waste types that are excluded under the Environmental Permit.
- 4.2.11 The Yard Manager (or their nominee) will obtain a copy of the Incoming Waste Form from the main office and request that the driver proceeds to the unloading area and prepare their vehicle for unloading.
- 4.2.12 The Yard Manager (or their nominee) will visually inspect the load to determine that the load appears to conform to the description on the documentation and that the condition of the packaging / containment is sufficient to allow safe handling of the waste. If there is any doubt about the integrity of the packaging / containment Management will be informed before any attempt is made to handle the load.
- 4.2.13 If the load appears to conform to the description given on the incoming waste form and the load is in a safe condition to be handled it can be transferred to its designated storage area. Repackaging of hazardous wastes will be undertaken inside the enclosed building if deemed likely to cause to odour or VOC emissions, installed with air extraction and carbon filter. The building will be enclosed by 3-sides and a roof and a PVC strip curtain at the entrance. Repackaging and bulking will only be undertaken by trained site operatives, such as topping up a half-filled IBC with the same or similar appropriate waste before then sealing and moving the IBC to the suitable storage bay.
- 4.2.14 Where not already done each container will be marked with the unique order number shown on the incoming waste form and date of arrival ensuring that any special instructions detailed on the incoming waste form are adhered to. If not already labelled with hazard warning diamonds these diamonds can be obtained from the main office and attached before storage, any old or incorrect labelling must be removed.
- 4.2.15 Most waste types accepted at the site will be containerised, such as in drums, IBCs, strong bags or other containers, often palletised for easy transport and handling. These wastes will

be moved around site using one of the two forklifts on site. Waste types that will be received loose or as single objects will typically be limited to small amounts of wastes such as fridges, WEEE and pallets, and other wastes. These will be specified on the permit waste list (see Appendix 5 of the Supporting Document). Incoming wastes that are loose, for example that arrive in a skip, will never be tipped directly onto the site floor, but will be sorted and removed from the skip manually or by the forklift to ensure no waste is spilt.

- 4.2.16 Once the vehicle has been unloaded the driver will be directed back to the main office where they will complete the appropriate paperwork. The paperwork will be two printed copies of an advice note which will be signed by the driver, one copy retained on site the other copy retained by the driver. Any discrepancies will be recorded on the advice note.
- 4.2.17 In the case of a consignment note being used for an incoming load the driver will complete section C, retain the yellow and pink copies leaving the white top copy on site.

#### ***Asbestos Waste Receipt***

- 4.2.18 In accordance with operational procedure 'P22 – Receipt, storage and removal of asbestos', the receipt and storage of asbestos is managed and supervised by Williams Environmental, but the handling of the asbestos is carried out by the contractor(s) bringing in the waste and the contractor collecting and transporting the waste to its disposal location.
- 4.2.19 Williams Environmental operatives are not licensed to handle asbestos waste and must ensure that all handling of the asbestos waste is carried out by the appropriately trained contractors.
- 4.2.20 All asbestos waste will be brought to site in suitable containment (e.g. double bagged).
- 4.2.21 The procedure for asbestos inputs to site is as follows:
- Delivery driver report to Williams Environmental reception and deposit all copies of the consignment note.
  - A Williams Environmental operative will unlock and open the container.
  - The delivery driver (wearing appropriate PPE) will carry the wrapped asbestos into the container and deposit it in a manner that will not damage the packaging. If any of the asbestos packaging is found to be damaged it is the responsibility of the delivery driver to over bag or seal where necessary. Any items found not properly packaged will be rejected and a non-conformance form completed.
  - The Williams operative will supervise and count in the number of bags / wraps into the container.
  - On completion of the unloading from the input vehicle to the container the Williams operative will close and lock the container. The container will be locked when asbestos waste is not being deposited.
  - The delivery driver and the Williams operative will report back at reception and confirm the number of bags / wraps deposited.
  - The consignment note will be completed, the pink consignee copy retained by Williams and the other copies retained by the delivery driver. Note: Williams

Environmental retain the blue copy from Forest Environmental For tonnage reporting, bags will be estimated at 10kg each, sheets at 25kg each and wraps at 50kg each.

4.2.22 The delivery driver will not be permitted into the office wearing PPE that may have been used in the handling of asbestos. If a spillage of asbestos or breakage of asbestos container/bag occurs during delivery, the accident procedures for a spill of this kind (contained within the site's Accident Management Plan) will be followed, including the use of clean water to dampen down the waste and affected area, and cordoning off the area until cleared up.

### **4.3 Non-Conforming Waste**

4.3.1 In accordance with operational procedure 'P10 – Non-conforming waste protocol', any non-conforming waste must be highlighted and addresses in an appropriate manner. The most common reasons for non-conformance are:

- On-site verification/compliance testing reveals the load to be mis-described
- A load is unsafe e.g. damaged or unsuitable containers
- Incorrect quantity e.g. wrong number or container size
- Incorrect paperwork
- Mis-labelled or unlabelled containers

4.3.2 The person discovering the non-conformance will inform the General Manager or nominee and amend the incoming waste form accordingly.

4.3.3 If the cause of the non-conformance is due to incompatibility, the waste will be moved immediately to the quarantine area to remove the hazard. If the waste has the potential to cause harm to personnel, it will be cordoned off and the area cleared until the technical manager has assessed the situation and advised on the appropriate actions and notifications.

4.3.4 When storing non-conforming wastes in the quarantine area consideration will be given to the current contents in the storage area, any special instructions on the incoming waste form and the available capacity of the area.

4.3.5 When a non-conformance is discovered a member of administration will contact the waste originator immediately and agree an appropriate action, complete a 'Non-Conforming Waste' form and if necessary, arrange for the technical manager to take a sample that can be sent for analysis at an approved external laboratory.

4.3.6 If the non-conformance breaches any condition in the company Environmental Permit the Environment Agency will be notified.

4.3.7 If the waste does not breach the company Environmental Permit and the waste originator is in agreement, the waste can be re-classified in accordance with Section 4.2 above and stored in accordance with Section 5.1 below.

4.3.8 The details of any non-compliance which poses a threat to Health, Safety or the Environment will be recorded on the 'Environmental Incident, Accident & Near-Miss reporting form' and retained in the SQEMS file of the Environmental Management System for the site.

#### **4.4 Waste Tracking**

4.4.1 A waste tracking system will be used on site and written records will be maintained which will include information on the waste type, quantity, how the materials were stored and how they were subsequently removed from site (for recovery or disposal). A daily assessment of the current capacity of the site will be undertaken and waste is only accepted if there is sufficient capacity for storing and sorting. Operations are advised by the Yard Manager or their nominee when the site is near to full capacity in a bay or when skips are nearly full.

4.4.2 A weekly stock take will be undertaken by the Yard Manager or their nominee to account for waste received on site where waste tonnages have been dedicated, if wastes have been moved around site, and if they have been reclassified or consolidated with other wastes.

4.4.3 In accordance with operational procedure 'P4 – Waste receipt and control', all waste materials entering site are subject to inspection, sorting and labelling prior to storage to ensure compliance with Environmental Permit.

4.4.4 In accordance with the waste acceptance procedures on site, upon arrival of waste delivery vehicle technical staff will ensure that:

- The driver is aware of site rules and that these rules will be adhered to.
- The driver can provide consignment note / transfer note which corresponds to the load and all relevant sections are completed and legible.
- The consignment of waste is expected /arranged by management.
- Consignment / transfer note does not describe any waste types that are excluded under the Environmental Permit.

4.4.5 The Yard Manager (or their nominee) will obtain a copy of the incoming waste Form from the main office and request that the driver proceeds to the unloading area and prepare their vehicle for unloading. The Yard Manager (or their nominee) will visually inspect the load to determine that the load appears to conform to the description on the documentation and that the condition of the packaging / containment is sufficient to allow safe handling of the waste. If there is any doubt about the integrity of the packaging / containment Management will be informed before any attempt is made to handle the load.

4.4.6 If the load appears to conform to the description given on the incoming waste form and the load is in a safe condition to be handled it can be transferred to its designated storage area.

4.4.7 Where not already done, each container will be marked with the unique order number shown on the incoming waste form and date of arrival ensuring that any special instructions detailed on the incoming waste form are adhered to. If not already labelled with hazard warning

diamonds these diamonds can be obtained from the main office and attached before storage, any old or incorrect labelling must be removed.

- 4.4.8 Once the vehicle has been unloaded the driver will be directed back to the main office where he will complete the appropriate paperwork. The paperwork will be two printed copies of an advice note which will be signed by the driver, one copy retained on site the other copy retained by the driver. Any discrepancies will be recorded on the advice note.
- 4.4.9 In the case of a consignment note being used for an incoming load the driver will complete section C, retain the yellow and pink copies leaving the white top copy on site.
- 4.4.10 Waste will be stored in appropriate containers within impervious, bunded, segregated areas in accordance with HSE guidance. Storage areas will be clearly marked with the type and hazard properties of the waste stored therein. The location of the waste will be recorded on the storage data base.
- 4.4.11 The storage areas will be visually inspected daily by the Yard Manager (or their nominee) as part of the 'Daily Compliance Check Sheet' any signs of damage or leakage will be addressed as a matter of utmost urgency. If containment is compromised, the waste will be moved to another suitable area and the movement recorded on the storage data base. The 'Daily Compliance Check Sheet' will be included within the Environmental Management System for the site.
- 4.4.12 For removal of bulked and packaged wastes, waste tracking is completed on site by ensuring the driver has the consignment note / transfer note and it is correctly completed. The time of arrival is recorded on the contractor's job ticket. Removal of wastes from site is logged in the storage database.



## 5.0 WASTE STORAGE, SEGREGATION AND HANDLING

### 5.1 General Waste Storage

- 5.1.1 As per operational procedure 'P6 – Waste storage', following determination of a waste load/materials as suitable for acceptance to the site, the wastes are stored in such a way as to present no risk to human health or the environment.
- 5.1.2 It is the responsibility of the Yard Manager or nominee to safely store chemicals within the designated storage area once classification of the waste has been completed, paying particular attention to:
- Current contents of the storage area/bay.
  - Contents of adjacent storage area/bays.
  - Any special storage instructions detailed on the incoming waste form.
  - Available storage capacity of storage area/bay.
- 5.1.3 Waste will be stored in appropriate containers within impervious, bunded, segregated areas and handled in accordance with HSE guidance (i.e. in accordance with HSG51 and HSG140 for flammable liquids, and CS21 for organic peroxides). Storage areas will be clearly marked with the type and hazard properties of the waste stored therein. The location of the waste will be recorded on the storage data base.
- 5.1.4 The storage areas will be visually inspected daily by the Yard Manager (or their nominee) as part of the 'Daily Compliance Check Sheet' and any signs of damage or leakage will be addressed as a matter of utmost urgency. If containment is compromised, the waste will be moved to another suitable area and the movement recorded on the storage data base. Secondary containment will conform to CIRIA guidance C736 'Containment systems for the prevention of pollution'.
- 5.1.5 On a quarterly basis a member of management with the Yard Manager will conduct a thorough inspection of the storage areas and determine the integrity of the bunding.
- 5.1.6 Forklift access to the storage bays will be maintained at all times. Drums and IBC's shall not be stored more than two high and a sufficient gap between rows will be maintained to allow pedestrian access.
- 5.1.7 All spillages of waste shall be logged in the site diary. If a spillage is in excess of 205 litres then the Environment Agency will be informed.
- 5.1.8 The storage of waste within the 'Reception Area' will be limited to a maximum of five working days. Waste stored in the reception area will be stored in accordance with guidance.
- 5.1.9 Any wastes known to be sensitive to heat and light or reactive with moisture will be stored under cover and protected from any condition likely to cause a reaction.

- 5.1.10 Wastes shall be removed off site as soon as possible and within a maximum of 6 months from the date of receipt.

#### ***Aerosols and Gas Cannisters Storage***

- 5.1.11 There are to be approximately 8 waste safes for storing aerosols on site and approximately two metal cages for storing aerosols and other gas cylinders (this may change in accordance with site requirements and may also include drums) which are to include:

- Miscellaneous gas cannisters including Butane, Propane and other hazardous and non-hazardous gases (including flammable gases)

- 5.1.12 Gas wastes will not be consolidated on site but stored temporarily for collection off-site.

#### ***Asbestos Waste Storage***

- 5.1.13 All asbestos waste will be brought to site in suitable containment (e.g. double bagged) by appropriately trained contractors and will be stored in an enclosed lockable skip/roll on container, kept closed and locked when not being filled or emptied.

#### ***Non-Hazardous Wastes Storage***

- 5.1.14 Whole loose pallets not being used on site will be stored temporarily in piles awaiting collection off-site for re-use or recycling, at least 6m from any other waste (whether in piles or containers) and any buildings and any other combustible or flammable materials as a fire prevention measure.

- 5.1.15 Any broken pallets/fragments will be stored in the general waste roll-on roll-off (RORO) bin in the 'Skip Area' of the northern part of the site prior to disposal off-site. Scrap metals will also be stored in the 'Skip Area' in an individual RORO container and pigeon guano (bagged) will be stored in a covered skip.

- 5.1.16 Other non-hazardous general wastes will also be stored in the general waste RORO bin, such as broken or unwanted packaging, broken pallets, cardboard, bits of plastic or containers, and other mixed non-hazardous general waste. The general waste bin will be covered to prevent rainfall ingress and to shade wastes from the sun.

- 5.1.17 Cardboard packaging from site operations and welfare unit is collected in small volumes in a wheelie bin and sent to a local recycling centre.

#### ***Battery Storage***

- 5.1.18 Batteries to be accepted at site include a range of household batteries, car batteries, lithium batteries and other batteries. Batteries will be inspected upon receipt to check they're in good condition and are undamaged and dry. The batteries then will be stored in appropriate containers, such as battery boxes, UN approved drums, kegs and pails to ensure they are kept dry and secure.

## 5.2 Waste Consolidation

- 5.2.1 In accordance with operational procedure 'P7 – Waste consolidation', wastes of compatible classification types are consolidated to either minimise packaging prior to final disposal or allow easy uplift by bulk tanker/vehicle.
- 5.2.2 Waste consolidation, i.e. pouring liquid wastes from smaller containers into larger containers together, which will be likely to cause odour and VOC emissions will be undertaken in the enclosed building (see site layout plan ref. 5195-CAU-XX-XX-DR-V-1800). The building will be installed with air extraction and carbon filter to remove odour and volatile organic compounds (VOCs) from the air prior to release to the outside. Areas within the building where waste consolidation (bulking, repackaging) is undertaken will be fully bunded on impermeable surfacing, with a collection sump installed for the easy removal of any spilt liquids.
- 5.2.3 Waste consolidation outside of non-odorous wastes will consist of stacking, palletising and moving items of wastes into designated storage bays, ready for transfer off-site. No potentially odorous wastes or wastes likely to give rise to VOCs will be opened outside.
- 5.2.4 Waste consolidation and compatibility testing will be undertaken under supervision of technical staff. Full appropriate PPE will be worn by site operatives during waste consolidation activities. Good housekeeping and supervision of activities will be undertaken within the building to ensure incompatible wastes do not mix and accidental spillages are cleaned up immediately.
- 5.2.5 If appropriate, compatibility testing shall be undertaken prior to the transfer and mixing/bulking of wastes. Incoming and receiving wastes shall be mixed in a proportional ratio. The test parameters used shall be driven by the waste being bulked. Compatibility test records shall be kept including the following information:
- Temperature increase.
  - Viscosity change.
  - Separation and precipitation of solids.
  - Evolution of gas.
  - Evolution of odours.
- 5.2.6 The consolidation area will be clear and accessible. Bunded areas shall have sufficient capacity to retain the possible spillage of the largest container being filled. Wastes for consolidation will be obtained from the storage area together with empty containers of a suitable sound construction.
- 5.2.7 Technical staff will determine appropriate protective clothing / devices required prior to commencement of work and issue to relevant personnel with clear instructions as to their use.
- 5.2.8 Compatible wastes will be transferred from original containers to the consolidation container until the receiving container is approximately 90% filled. All original containers will be fully

drained leaving a minimum of residue. During the transfer of material if there is any reaction the transfer will cease immediately, and staff will evacuate the area until the cause has been determined and remedial action can be instigated. Where appropriate, anti-siphon subsurface filling pipes will be used.

- 5.2.9 Where containers have contained corrosive materials, they must be rinsed with the washings and transferred to the consolidation container.
- 5.2.10 When the consolidation container is 90% full it will be sealed, wiped clean of any spillage or drips, and clearly marked with disposal classification and date.
- 5.2.11 Upon completion of consolidation, all consolidation containers will be transferred to an appropriate storage area, palletising where necessary.
- 5.2.12 The receiving containers will be disposed of in the following areas:
- Metal drums -> crushing compound
  - Plastic drums -> stored in IBC area to await disposal
  - Bottles etc. -> general waste roll on container
- 5.2.13 After completion of the consolidation task the consolidation area will be cleaned, all containers removed, and the area left suitable for future operations.

#### ***Flammable Waste Bulking***

- 5.2.14 In accordance with operational procedure 'P13 – Flammable waste bulking', flammable wastes that are compatible can be consolidated into an IBC or 205 litre drum to either minimise packaging prior to final disposal or allow easy uplift by bulk tanker/vehicle.
- 5.2.15 The following solvent wastes can be bulked together:
- Alcohols – including Butanol, Ethanol, Methanol and Isopropyl alcohol (IPA)
  - Alkanes – including Hexane and Heptane
  - Alkenes – including Toluene, Xylene
  - Inks, methylated spirit, paint thinners and gun washes
  - Mixed non chlorinated and chlorinated solvents
- 5.2.16 Solvents not to be bulked include:
- Benzene / Pyridine / Silanes / Amines / Acetic acids /Acid chlorides /Toluene di isocyanate
  - Prostaglandin waste in solvent / strongly acidic HPLC solvents / Other smelly solvents
- 5.2.17 It should be noted that solvent wastes react violently with oxidising agents.
- 5.2.18 If appropriate, compatibility testing shall be undertaken prior to the transfer and repackaging/bulking of wastes. Incoming and receiving wastes shall be mixed in a proportional

ratio. The test parameters used shall be driven by the waste being bulked. Compatibility test records shall be kept including the following information:

- Temperature increase.
- Viscosity change.
- Separation and precipitation of solids.
- Evolution of gas.
- Evolution of odours.

5.2.19 The consolidation area will be clear and accessible. Bunded areas shall have sufficient capacity to retain the possible spillage of the largest container being filled. Wastes for consolidation will be obtained from the storage area together with empty containers of a suitable sound construction.

5.2.20 PPE to be worn consist of Eye Protection / High Visibility Clothing / Safety Footwear / Gloves. Organic vapour masks are to be worn for bulking flammable wastes of class 6.1.

5.2.21 Due to a possible build-up of static electricity, earthing leads are provided in the flammable substances storage bay(s), where the operative will connect the earth lead to a metallic part of the IBC or drum.

5.2.22 Solvent approved IBCs should be used where possible as the bulking tank (consolidation container).

5.2.23 Compatible wastes will be transferred from original containers to the consolidation container until the receiving container is approximately 90% filled. All original containers will be fully drained leaving a minimum of residue. During the transfer of material if there is any reaction the transfer will cease immediately, and staff will evacuate the area until the cause has been determined and remedial action can be instigated.

5.2.24 When the consolidation container is 90% full it will be sealed, wiped clean of any spillage or drips and clearly marked with disposal classification and date.

5.2.25 Upon completion of consolidation, all consolidated containers will be transferred to an appropriate storage area, palletising where necessary.

5.2.26 After completion of the consolidation task, the consolidation area will be cleaned, all containers removed, and the area left suitable for future operations.

#### ***Scraping and Emptying of Residues***

5.2.27 In accordance with operational procedure 'P25 – Scraping and emptying out of residues from containers', Before a container can be sent away for recycling the container must be empty of wastes or as free of residues as possible within a reasonable time and easy method.

5.2.28 The methods to empty the container are by:

- Pouring out liquids into a vessel of similar hazard, i.e. solvents together, oils together or similar acids together
- Pouring out solid powders or solid residues into containers of similar hazard, i.e. caustic powders together, oily spillsorbs and granules together or food stuffs together
- Scraping out oily residues
- Scraping out organic resins.
- Ragging out wet container residues.
- Emptying and wiping clean drums which have contained lab wastes, aerosols and have been emptied to be reused again.

5.2.29 PPE is allocated by the chemist or Technical Manager and will be issued when needing a change and signed for by the user in the PPE log.

5.2.30 Waste sludge, scraping and rags will be disposed of according to the hazardous nature of the chemical contaminants, i.e. oily rags to go with oily contaminated wastes in IBC's, solvents to go with bulk solvents wastes.

5.2.31 Empty plastic containers are sent off site for shredding and steel drums that are clean are sent for metals recycling. Many plastic drums with lids can be re-used for aerosols and lab waste packing.

### **5.3 Bulk Liquid Removal**

5.3.1 In accordance with operational procedure 'P8 – Bulk liquid removal', compatible liquid wastes and collected surface water are removed in bulk by a suitably equipped vacuum tanker. Prior to tanker/vehicle arrival, operatives will ensure that containers to be emptied are accessible, contained within a bunded area and that drainage sumps within the bunded area have sufficient capacity to retain the contents of the largest container (i.e. 110% capacity).

5.3.2 On arrival of the vacuum tanker, the operative will remove all bungs / lids in preparation for the containers to be emptied. Before the transfer of waste commences technical staff must ensure that:

- The consignment note / transfer note is available and correctly completed.
- The vehicle is empty and of suitable construction for the waste to be removed.
- Tanker operatives have the correct protective clothing and are familiar with site rules.
- The time of arrival is recorded on the contractor's job ticket.

5.3.3 Where any of the above conditions are not met, the operative will refer to site management for advice prior to commencing transfer. If the above conditions have been met, the site operative will direct the driver to the loading area and ensure that no transfer commences until a technical member of staff is present.

- 5.3.4 When a technical member of staff is present the transfer can commence. All personnel involved in the transfer will wear appropriate PPE. A technical member of staff will be present at all times during this operation. If the tanker driver / operative wishes to leave the area of operation, they will close all valves on the tanker, switch of any vacuum pumps and advise the technical member of staff.
- 5.3.5 In the event of any problem during transfer the operation must cease immediately until corrective action has been taken, and where necessary staff will seek advice from site management.
- 5.3.6 When the last container has been emptied, a composite sample of the load will be taken and retained on site for 28 days.
- 5.3.7 On completion of transfer to the tanker and taking a composite sample, all loading hoses must be washed within the bunded area, the driver must confirm that all valves are closed, all valves have had the screw caps fitted and hoses are secured on the vehicle. When the staff member supervising the operation is satisfied that the vehicle is in a safe condition to return to the public highway the driver will be directed back to the main office where they will complete the appropriate paperwork.
- 5.3.8 Before the vehicle leaves site a member of the technical staff will ensure that the tanker is displaying the correct warning signs / symbols and complete a final visual check of the vehicle.
- 5.3.9 All empty containers and pallets will be removed and placed in their appropriate storage areas. Where containers retain some residues, these will be emptied in accordance with consolidation procedures.

#### **5.4 Packaged Waste Removal**

- 5.4.1 In accordance with operational procedure 'P9 – Packaged waste removal', packaged wastes are removed for disposal at appropriate disposal sites, by the use of flatbed vehicles. In most cases, containers will be palletised for ease of loading / unloading.
- 5.4.2 A list of packaged wastes for disposal is produced by the office administrator and given to the person assembling the waste (usually the Yard Manager).
- 5.4.3 On receipt of the list the Yard Manager (or their nominee) will locate the packaged waste to leave site, ensure that any labelling on the waste is correct, ensure that hazard warning diamonds are to the right and in contact with the descriptive label, ensure that any old or incorrect labelling is removed or obliterated.
- 5.4.4 When the waste is moved to pallets for transportation the following checks must be adhered to:
- Any pallet being used is in sound condition and unbroken.
  - All containers are sealed, in good condition and appropriate for the waste being transported.

- Each pallet carries the maximum number of containers.
- The weight distribution on the pallet is as even as possible.
- The containers are shrink wrapped onto the pallet when the pallet has its maximum load.

5.4.5 The driver of the flat bed vehicle will supervise the loading, ensuring that the weight distribution is correct for their vehicle and that the load does not overhang or touch the curtain on the vehicle.

5.4.6 As the vehicle is being loaded, the Yard Manager (or nominee) will check off each pallet against the loading list provided. When the vehicle is loaded and the load has been checked against the loading list, return the list to the main office.

5.4.7 When the flat bed driver has checked that the load is secure, closed and tightened the side curtains he will go to the main office and complete their documentation i.e. waste transfer note / consignment note.

5.4.8 Before the vehicle leaves site a technical member of staff will ensure that the vehicle is displaying the correct warning signs / symbols.

## **5.5 Asbestos Waste Removal**

5.5.1 All asbestos waste removed from site will be removed by a fully qualified roll-on driver who is in possession of a current ADR certificate and is using a vehicle with appropriate orange ADR boards displayed.

5.5.2 Williams Environmental operatives are not licensed to handle asbestos waste and must ensure that all handling of the asbestos waste is carried out by the appropriately trained contractors.

5.5.3 The procedure for asbestos output from site is:

- The collection driver will report to Williams Environmental reception.
- Under the supervision of a Williams operative the driver will place the replacement container at an appointed place in the yard.
- The collection driver and the Williams operative will check that the bin for collection is in sound condition and the doors fully closed and clamped.
- The collection driver will exchange containers, display the orange ADR boards on their vehicle and report back to reception.
- The consignment note will be completed by Williams staff and the collection driver, with Williams retaining the white consignor copy and the collection driver retaining the other copies.
- The container is weighed at end disposal and a copy of the weight ticket is sent to Williams with the invoice. This allows for accurate reporting of confirmed weights in the Returns.



- 5.5.4 The delivery driver will not be permitted into the office wearing PPE that may have been used in the handling of asbestos.

## **5.6 Laboratory Smalls**

- 5.6.1 In accordance with operational procedure 'P11 – Laboratory smalls', the operator will ensure that laboratory smalls, i.e. containers <5 litre in capacity are subject to the appropriate categorisation, handling and storage controls. These activities will be undertaken by a qualified chemist (HNC minimum) or the technical manager.
- 5.6.2 The inspecting chemist shall attend the waste producers' site to classify and package the waste containers into drums according to their hazard properties. Classification will be obtained using the following criteria:
- Physical state (liquid, solid or gas).
  - Flammability.
  - Product data sheets.
  - Container markings / labelling.
  - ADR catalogue.
  - Personal experience.
- 5.6.3 Individual packages when drummed will be prevented from mechanical damage by vermiculite. A contents list will be created and transported with the waste. The drum will be labelled with respect to hazard for carriage. If waste producers have suitable expertise 'in house' they may pack the waste themselves.
- 5.6.4 The procedure for accepting waste on site will be in accordance with 'P1 – Enquiries and pre-acceptance'. If waste classification and packing was carried out by a Williams Environmental chemist on behalf of a customer, verification will be restricted to a visual inspection. If the waste has been packed by the customer, the drum(s) will be unpacked as soon as reasonably practicable, and full checking and verification will take place by the operator in accordance with the above criteria and Risk Assessment.
- 5.6.5 If a drum is found to contain incompatible substances or they have been packed inadequately, the drum will be repacked immediately and 'P10 - Non-conforming waste protocol' followed. Drum verification will take place in the dedicated lab smalls area.
- 5.6.6 If the waste is accepted following the appropriate checks, the waste will be stored in accordance with 'P6 – Waste storage' procedure awaiting transfer off site for treatment or disposal.

## **6.0 WASTE TREATMENT**

### **6.1 Overview**

- 6.1.1 This section is not applicable to the proposed activities at the site. In accordance with Environment Agency guidance 'Chemical waste: appropriate measures for permitted facilities' (published November 2018), waste treatment does not apply to transfer stations, as chemical waste is not being treated, only bulked up, repackaged and transferred off-site for recovery or disposal. The proposed site operations at the Riverside Waste Transfer Station are covered in Sections 2.0 - 5.0 of this document.

## 7.0 EMISSIONS CONTROL

### 7.1 Overview

7.1.1 The potential emissions from the proposed activities at the site that may cause pollution are identified and characterised below.

### 7.2 Point Source Emissions to Air

7.2.1 The only point source emission to air at the site will be an activated carbon filter installed in the enclosed building, where the repackaging and bulking of liquid and solid hazardous wastes that are deemed likely to cause odour and VOC emissions will be undertaken.

7.2.2 The carbon filter will extract volatile organic compounds (VOCs) and odours from the air prior to leaving the building.

7.2.3 It is not expected that point source emissions to air from the enclosed building will be significant, as VOCs and odours will be adsorbed by the activated carbon filter and typically bulking, and repackaging will only be undertaken for around 1 hour per day.

7.2.4 There are no other point source emissions proposed on site.

### 7.3 Fugitive Emissions to Air (including Odour)

7.3.1 An Amenity & Accidents Risk Assessment ref. 5195-CAU-XX-XX-RP-V-0302 has been undertaken as part of this permit application, which covers the risk of potential emissions from the proposed site activities, including odour, dust, mud and litter, and the control measures in place.

7.3.2 Where possible, fugitive emissions are prevented through strict waste acceptance procedures, containment of the wastes in sealed containers, the operations being undertaken on a concrete impermeable surface and handling and storage of wastes undertaken in fully bunded areas. The waste storage areas are covered by a canopy to protect from rainfall and repackaging and bulking of wastes is undertaken in a fully enclosed, bunded building with sealed air extraction and activated carbon filters for removal of odours and VOCs. Skips where appropriate are enclosed and/or covered with tarpaulins to prevent rain ingress and litter blowing out. Good housekeeping of site surfaces and stored wastes will ensure accumulation of debris does not occur.

7.3.3 The risk of fugitive dust emissions is considered low as all potentially dusty wastes (e.g. powders) will be delivered and will remain within sealed containers unopened until their removal from site.

## **7.4 Emissions of Noise and Vibration**

- 7.4.1 The Amenity & Accidents Risk Assessment ref. 5195-CAU-XX-XX-RP-V-0302 assessed the risk of noise and determined that the risk of nuisance was low and therefore a separate Noise Assessment and Management Plan has not been provided. Noise will be controlled via procedures within the EMS.
- 7.4.2 The sources of noise on site will be limited to incoming and outgoing waste delivery/collection vehicles, movement of waste around site by the two forklifts and periodic drum crushing. It is not anticipated these noises will exceed that which is already experienced as background noise in the surrounding industrial area.
- 7.4.3 Bulking of wastes is typically by gravity discharge from one container into another, which is low in noise. Noises from the repackaging and bulking of wastes within the building will be contained inside the building.
- 7.4.4 There are no sources of vibration identified from the operations at the site.
- 7.4.5 Noise control measures will include reducing drop heights of waste loads/pallets of wastes, keeping plant and equipment well maintained and serviced regularly to prevent noise emissions from faulty parts, and delivery/collection vehicles attending site during operational hours only. Reversing bleeper alarms will be replaced with broadband (white noise) reversing sounds where possible and the concrete site surfacing will provide a smooth running surface for plant and vehicles. Staff will be fully trained and competent in the use of plant and equipment, including fork lift and drum crusher, to ensure noise emissions are kept to a minimum at all times.

## **7.5 Point Source Emissions to Water & Sewer**

- 7.5.1 There will be no point source emissions to water or sewer from the site.
- 7.5.2 All clean, uncontaminated surface run-off (rainfall) from rooves and site surfaces will be directed into existing surface water drains via a culvert. The canopy on site will shelter the waste storage and unloading area and will prevent bunded areas from collecting significant volumes of rainwater.
- 7.5.3 Contaminated liquids collected from leaks, spills or general handling of the hazardous wastes at the site will be contained within the fully bunded, sealed areas on site, with sumps used to pump out these liquids for appropriate disposal at a licenced facility. No discharge of contaminated liquids will be permitted from the site to surface water or sewer.

## **7.6 Fugitive Emissions to Land and Water.**

- 7.6.1 An Amenity & Accidents Risk Assessment ref. 5195-CAU-XX-XX-RP-V-0302 has been undertaken as part of this permit application, which covers the risk of potential emissions from the proposed site activities, including fugitive emissions such as dust, mud, litter, accidents and the control measures in place.

- 7.6.2 The site is covered in an existing concrete surface and all areas where hazardous wastes are stored or handled will be fully bunded and sealed, with 110% containment of the largest container. Spill kits will be readily available around the site, to include spill pads, booms and granules, and replenished when used. Repackaged and bulked liquids will be filled to only 90% of the container level to prevent overfilling and potential spillage.
- 7.6.3 Contaminated liquids collected in bunded areas from accidental spills or leaks will be contained and sent off-site for appropriate disposal at a licenced facility.

## **8.0 EMISSIONS MONITORING AND LIMITS**

### **8.1 Emissions to Air**

- 8.1.1 Emissions to air will not be significant from the repackaging and bulking operations, as an activated carbon filter will be installed to capture odours and VOCs from the air leaving the building. The carbon filter will be maintained in accordance with manufacturers recommendations and checked as part of daily site inspections.
- 8.1.2 The currently permitted Operation at Silvertown does not currently mitigate point source emission to air and therefore no typical emission rates from this activity are available. It is proposed to monitor total volatile organic compounds (TVOC) emissions monthly from the carbon filter during repackaging activities, over a 6 month period following commencement of operations. Monitoring will consist of spot bulk sampling of air leaving the carbon filter once a month during repackaging activities within the building. Samples will be sent to a UKAS accredited laboratory for analysis. The results will then be assessed in line with H1 guidance and submitted to the Environment Agency (EA).

### **8.2 Emissions to Water & Sewer**

- 8.2.1 There are no emissions to water or sewer proposed.

## 9.0 PROCESS EFFICIENCY (MEASURES FOR USING ENERGY, RAW MATERIALS AND WATER)

### 9.1 Energy Efficiency

9.1.1 The energy requirements of the facility are relatively low, limited to energy needed for the drum crusher (electrically powered), the air extraction system in the enclosed building, power for the site office and welfare facilities, and diesel for the two forklifts. Energy efficiency measures are addressed in the site's Environmental Management System.

9.1.2 As the energy requirements of the facility in general are low and no alternatives are available with lower energy use, no improvements are considered necessary. Basic energy saving measures will be adopted and continually reviewed. This includes measures such as:

- Efficient use of plant and machinery to avoid unnecessary ignition;
- Plant and machinery to be switched off when not in use; and
- Regular maintenance of all plant and machinery.

### 9.2 Raw Materials

9.2.1 The activities on site require very few raw materials, mainly clean water for limited washing of site surfaced and plant (if required), and the emergency shower. Carbon filters will be required to replace spent filters periodically. Other raw materials will include absorbent granules required as part of spill kits around site.

9.2.2 Insignificant amounts of fuels and oils/lubricants associated with on-site plant (two forklifts) will be appropriately stored and banded in IBCs on a banded pallet in the lockable fuel store building, and the use of fuel/oils/lubricants for maintenance and refuelling will be undertaken on impermeable surfacing in accordance with the site's Environmental Management System. A fuel pump will be used for dispensing fuel into the forklifts and drip trays will be used. Spill kits will be present around the site, close to areas where spillages are likely to occur i.e. fuel store area.

9.2.3 There is no waste treatment on site, therefore no reagents or other raw materials required.

### 9.3 Water Use

9.3.1 Water usage at the site will be minimal, restricted to small amounts used for cleaning surfaces or plant when required, and for the emergency shower in Bay 18.

### 9.4 Waste Minimisation, Recovery and Disposal

9.4.1 The proposed waste transfer operation at the site involves waste bulking and repackaging of chemical waste and then transferring off-site for recovery or disposal. No waste will be produced at the site as a result of treatment activities, with all activities undertaken at the site associated with the transfer station only.

- 9.4.2 All waste received onto site will be assessed and where necessary incorporated into larger containers/IBCs/skips/RORO containers (bulked and repackaged) ready for removal off-site for suitable recovery or disposal to the most appropriate licenced facility. No waste treatment will be undertaken, other than bulking and repackaging before sending off-site.



**10.0 REVIEW AGAINST INDICATIVE BAT STANDARDS**

Overall Environmental Performance	
<b>BAT 1</b>	<p><i>In order to improve the overall environmental performance, BAT is to implement and adhere to an environment management system (EMS) that incorporates all of the following features:</i></p> <ul style="list-style-type: none"> <li><i>I) Commitment of the management, including senior management;</i></li> <li><i>II) Definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation;</i></li> <li><i>III) Planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment;</i></li> <li><i>IV) The implementation of procedures;</i></li> <li><i>V) Checking performative and taking corrective action;</i></li> <li><i>VI) Review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness;</i></li> <li><i>VII) Following the development of cleaner technologies;</i></li> <li><i>VIII) Consideration for the environmental impacts from the eventual decommission of the plant at the stage of designing a new plant, and throughout its operating life;</i></li> <li><i>IX) Application of sectoral benchmarking on a regular basis;</i></li> <li><i>X) Waste stream management;</i></li> <li><i>XI) An inventory of waste water and waste gas streams;</i></li> <li><i>XII) Residues management plan;</i></li> <li><i>XIII) Accident management plan;</i></li> <li><i>XIV) Odour management plan;</i></li> <li><i>XV) Noise and vibration management plan.</i></li> </ul>
	<p>The company operates under an ISO14001 accredited environmental management system, audits of the performance of key plant, and all maintenance that has been undertaken will be undertaken and reviewed as part of the company’s management system. The company management system is audited externally as part of the ISO 9001 and 14001 accreditation.</p> <p>Further information is provided within the management plan summary contained in the Supporting Document ref. 5195-CAU-XX-XX-RP-V-0300, however in summary the site will have: -</p> <ul style="list-style-type: none"> <li>• A full maintenance schedule for all machinery and equipment on site.</li> </ul>

	<ul style="list-style-type: none"> <li>• Documented procedures to control all aspects of the operation that may have an impact on the environment, including contingency and operational methods which are to be undertaken in the event that there is a plant breakdown, or activities could lead to an unacceptable emissions.</li> <li>• Well documented procedures for monitoring emissions and impacts including the use of a daily site log. All monitoring will occur in accordance with the Environmental Permit.</li> </ul> <p>The site will undertake a preventative maintenance programme where site plant, and infrastructure will be inspected on a daily, weekly and monthly basis in accordance with written procedures.</p> <p>Training systems are in place and all employees which will include: -</p> <ul style="list-style-type: none"> <li>• Relevant treatment activities undertaken on site.</li> <li>• Management techniques to be employed for all aspects of waste operations which are relevant to their position.</li> <li>• Reporting any abnormal events.</li> <li>• Contingency measures in place to prevent breaches of the Environmental Permit in the event of abnormal weather conditions; and contingency measures to be taken in the event that accidental emissions are released to the environment.</li> </ul> <p>The operator will only appoint suitably qualified contractors, and all purchasing of equipment and materials will be undertaken in accordance with the management system.</p>
<p><b>BAT 2</b></p>	<p><i>In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques detailed in ‘BAT 2 Table ‘best available techniques (BAT) conclusions for waste treatment industries (BREF), under Directive 20/10/75/EU, from the Official Journal of the EU’ summarised below:</i></p> <p><i>Pre-acceptance procedures</i></p> <p><i>Waste Acceptance procedures</i></p> <p><i>Waste tracking and inventory</i></p> <p><i>Output quality management system</i></p> <p><i>Ensure waste segregation</i></p> <p><i>Waste compatibility prior to mixing or blending of waste</i></p> <p><i>Sorting of incoming solid waste</i></p>

Pre-acceptance and Waste Acceptance procedures

Waste pre-acceptance and waste acceptance procedures will be in place to ensure that only waste types permitted are accepted onto site, procedures are outlined in Section 4.0 of this document.

The operator has in place waste pre-acceptance and waste acceptance procedures and characterisation procedures (see Section 4.0) which includes an assessment of waste prior to their acceptance to site and the sampling to ensure their suitability.

During pre-acceptance checks, the waste type each waste load will be established. The waste will only be accepted if it is compliant with the permitted waste types and if the site is able to handle the waste.

In the event of any non-conforming wastes a waste rejection notification will be issued informing that the waste is not suitable for treatment.

Waste deemed not acceptable will be rejected and stored in the quarantine area awaiting removal off site.

Waste tracking and inventory

Waste tracking system will be used as detailed in Section 4.4. Written records will be maintained in a database which will include information on the waste type, quantity, how the materials were stored and how they were subsequently disposed of/sent off site for recovery. A daily assessment of the current capacity of the site is undertaken and waste is only accepted if there is sufficient capacity.

A weekly stock take will be undertaken by the Yard Manager or their nominee to account for waste received on site where waste tonnages have been dedicated, if wastes have been moved around site, and if they have been reclassified or consolidated with other wastes.

Output Quality Management System

The operator has a technically competent manager (TCM) who is qualified to Level 4 in 'Managing Transfer – Hazardous Waste'. The roles of the technical manager and chemist are clearly defined within the procedures in the management system and staff will only undertake activities for which they have received suitable training.

All staff undertaking waste acceptance procedures will receive suitable training in the waste acceptance procedures, as well as in waste handling and the relevant health and safety and environmental procedures in place. All staff undertaking other roles on site, including bulking, repackaging and handling of hazardous wastes and other roles will receive the suitable training required to undertake these tasks safely and with due regard to environmental protection and human health.

The site will be manned by a minimum of two staff under normal circumstances, during waste reception periods, the operations manager to be qualified to at least HNC Chemistry or equivalent.

Ensure waste segregation

See Section 5.0 of this document for further detail on waste storage, segregation, handling, consolidation and removal from site.

Segregation of the accepted waste types will be undertaken using designated concrete bays (or where appropriate skips/RORO containers) and waste tracking to ensure incompatible waste types are not stored together i.e. reactive wastes. Hazardous wastes will be stored in fully bunded concrete storage bays, beneath a canopy roof, for shelter from the weather. Wastes will be accepted and stored at the site in sealed containers and repackaged into larger sealed containers where appropriate. Non-hazardous wastes such as packaging waste will be stored loose in a covered skip or RORO bin.

In the event of any non-conforming wastes, a waste rejection notification will be issued informing that the waste is not suitable for accepting at the site and will be rejected as per written procedures in Section 4.3.

Rejected wastes will be stored within a designated quarantine area (typically an empty reception bay) pending removal from site and a note will be made of the waste type, quantity, hazardous properties and storage requirements. The quarantine area is segregated from the other storage areas within a concrete bay. Consideration will be given to all stored wastes chemical and reactive properties prior to storing a non-conforming wastes in an adjacent bay. See the Site Layout Plan, drawing ref. 5195-CAU-XX-XX-DR-V-1800 for further detail on waste stockpile location.

Waste Compatibility

Waste pre-acceptance and waste acceptance procedures, sampling, testing and analysis procedures will be in place to ensure that only waste types permitted are accepted onto site, as per procedures outlined in Section 4.0.

Section 4.0 also details on-site verification, reception and control procedures which will be undertaken Testing will be performed to ensure that the materials accepted are consistent with the analysis and description supplied at the pre-characterisation stage.

Samples shall be retained on site for a minimum of 28 days following sampling, the laboratory will retain samples for 30 days.

Sorting of Incoming waste

As per Sections 4.0, following acceptance and valid-pre-acceptance testing result (dependant on the waste stream) wastes will undergo the following acceptance, sorting and storage. The storage bays are used as reception/quarantine areas as shown in drawing ref: 5195-CAU-XX-XX-DR-V-1800, however the exact layout will vary over time, dependent upon inputs and treatment timescales. Demarcation of the areas will be managed via suitable signage. The waste storage area is impermeable concrete pavement with sealed drainage system any runoff will be treated and then either stored for reuse or discharged to sewer. The delivery driver will be directed to a designated unloading area, waste unloaded and taken to reception area for inspection and then weighed where necessary on calibrated pallet scales. The site is always manned during operational hours.

BAT 3	<i>In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams as part of the environmental management system.</i>
	Water usage is minimal. Use of mains water restricted to washing plant etc. See Section 9.3.
BAT 4	<i>In order to reduce the environmental risk associated the with storage of waste, BAT is to use all of the techniques given below</i> <i>Optimised storage location</i> <i>Adequate storage capacity</i> <i>Safe storage operations</i> <i>Separate area for storage and handling of packaged hazardous waste</i>
	<p>See BAT 2 'Ensure waste segregation'.</p> <p>See Section 5.0 of this document for further detail on waste storage, segregation, handling, consolidation and removal from site.</p> <p>Waste acceptance procedures and waste rejection procedures (non-conformances) are outlined in Section 4.0 of this document.</p> <p>A daily assessment of the current capacity of the site is undertaken and waste is only accepted if there is sufficient capacity at the site.</p> <p>The southern area is a fully bunded, impermeable concrete surfaced area with concrete storage bays and walls, beneath a canopy roof to protect the bays from rainfall. Any liquids collected in this area from leaks or spillages of waste liquids or solids will be collected/pumped and temporarily stored in an IBC (or similar) in the quarantine area for disposal off site. The northern part of site is covered in impermeable concrete surfacing, with kerbing round the edge and run-off directed to existing interceptor with stop valve to contain potentially contaminated run-off in the event of a spillage or fire.</p> <p>The delivery driver will be directed to a designated unloading area, waste unloaded and taken to reception area for inspection and then weighed where necessary on calibrated pallet scales. The driver is then directed to the designated unloading area by the site operation staff. The site is always manned during operational hours. See the Site Layout Plan, drawing ref. 5195-CAU-XX-XX-DR-V-1800 for further detail on layout of storage areas.</p> <p>The site layout has been designed to ensure that hazardous waste handling, bulking, repackaging and storage areas are fully bunded and separated from each other to ensure segregation of activities and stored hazardous materials. Wastes will only be removed from the storage area if sufficient capacity is available for them to be sent off-site for recovery or disposal.</p> <p>All areas will be clearly marked using signage and all containers containing hazardous wastes will be properly labelled, with hazard warning triangles and appropriate documentation recorded, including within the waste tracking system.</p>

	<p>Storage vessels and containment systems will be in line with the CIRIA 'Containment systems for the prevention of pollution: Secondary, tertiary and other measures for industrial and commercial premises (C736;2014) and also HSE guidance on chemical waste storage. Bunding will be provided to a minimum of 110% capacity.</p> <p>The storage of waste within the 'Reception Area' will be limited to a maximum of five working days of the material being accepted on site. Once sorted, and where necessary bulked and repackaged, the material is stored in sealed containers and sent off site for recovery or disposal once a suitable amount is on site.</p> <p>A weekly stock take will be undertaken by the Yard Manager or their nominee to account for waste received on site where waste tonnages have been dedicated, if wastes have been moved around site, and if they have been reclassified or consolidated with other wastes.</p>
BAT 5	<p><i>In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.</i></p> <p><i>Handling and transfer procedures aim to ensure that wastes are safely handled and transferred to the respective storage or treatment. Including the following elements:</i></p> <ul style="list-style-type: none"> <li><i>A) Handling and transfer of waste are carried out by competent staff;</i></li> <li><i>B) Handling and transfer of waste are duly documented;</i></li> <li><i>C) Measures are taken to prevent, detect and mitigate spills;</i></li> <li><i>D) Operation and design precautions are taken when mixing or blending wastes;</i></li> </ul>
	<p>The operator will have a technically competent manager (TCM) who is qualified to Level 4 in 'Managing Transfer – Hazardous Waste' The roles of technical manager and chemist are clearly defined within the procedures in the management system and staff will only undertake activities for which they have received suitable training. All staff undertaking waste acceptance procedures will receive suitable training in the waste acceptance procedures, as well as in waste handling and the relevant health and safety and environmental procedures in place.</p> <p>The site will be manned by a minimum of two staff under normal circumstances, during waste reception periods, the technical manager and chemist to be qualified to at least HNC Chemistry or equivalent. The following procedures are in place (See Section 4.0 and 5.0) to reduce the environmental risk associated with the handling and transfer of waste:</p> <ul style="list-style-type: none"> <li>• Environmental Sampling Plan (Appendix 1)</li> <li>• P1 – Enquiries and Pre-Acceptance of Waste</li> <li>• P4 – Waste Receipt and Control</li> <li>• P5 – Waste Inspection and Categorisation</li> </ul>

	<ul style="list-style-type: none"> <li>• P6 – Waste Storage</li> <li>• P7 – Waste Consolidation</li> <li>• P8 – Bulk Liquid Removal</li> <li>• P9 – Packaged Waste Removal</li> <li>• P10 – Non-Conforming Waste Protocol</li> <li>• P11 – Laboratory Smalls</li> <li>• P13 – Flammable Waste Bulking</li> <li>• P15 – Reporting of Environmental Incident, Accident or Near-Miss</li> <li>• P16 – Risk Assessments</li> <li>• P17 – Battery Operator Training</li> <li>• P18 - Drum Crushing Operation</li> <li>• P19 – Inspection and Testing of Equipment and Records</li> <li>• P22 – Receipt, Storage and Removal of Asbestos</li> <li>• P24 – Spillage of Chemical Waste During Transport (Appendix 2)</li> <li>• P25 – Scraping and Emptying Out of Residues from Containers</li> </ul> <p>In addition, environmental risks are assessed in detail in the Amenity and Accidents Risk Assessment report ref: 5195-CAU-XX-XX-RP-V-0302, which includes risk management, control and mitigation for site activities and potential accidents i.e. leaks and spills.</p> <p>Storage vessels and containment systems will be in line with the CIRIA ‘Containment systems for the prevention of pollution: Secondary, tertiary and other measures for industrial and commercial premises’ (C736;2014) and HSE standards for storing chemicals. Bunding will be provided to a minimum of 110% capacity.</p>
<b>Monitoring</b>	
<b>BAT 6</b>	<i>For relevant emissions to water as identified by the inventory of waste water stream, BAT is to monitor key process parameters at key locations (e.g. at inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation)</i>
	<p>N/A – no waste water streams identified from proposed operations.</p> <p>Clean surface water from buildings and northern area is to be directed to existing surface water drainage infrastructure. There are no wastewater streams identified from the waste operations. Any liquids generated by accidental leaks and spillages will be contained by the site’s impermeable concrete surfacing and fully bunded area in the southern part of the site. These spilt liquids will be collected, pumped out and transferred to a</p>

	suitable container ready for removal from site for disposal. Any spilt liquids in the northern area will be contained by perimeter site kerbing, impermeable concrete site surfacing and stop valve which can be closed in event of accident.
<b>BAT 7</b>	<i>BAT is to monitor emissions to water with at least the frequency detailed in BAT 7 ‘best available techniques (BAT) conclusions for waste treatment industries (BREF), under Directive 20/10/75/EU, from the Official Journal of the EU’</i>
	N/A – no waste water streams identified from proposed operations. See response to BAT 6.
<b>BAT 8</b>	<i>BAT is to monitor channelled emissions to air with at least the frequency detailed in BAT 8 ‘best available techniques (BAT) conclusions for waste treatment industries (BREF), under Directive 20/10/75/EU, from the Official Journal of the EU’ and in accordance with EN Standards. If EN standard are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.</i>
	See Section 7.2 and 8.1 of this document for monitoring for air emissions from the carbon filter. Odours and volatile organic compounds (VOCs) from the enclosed building will be removed from air by the activated carbon filter. The pouring of potentially odorous and vaporous liquids inside the building will typically only occur up to 1 hour per day, and so emissions to air will not be continuous. Emissions to be tested every month or as per manufacturer’s guidance to ensure the process parameters are within the optimal range.  Daily olfactory odour monitoring will be carried out on site. Monitoring is undertaken as per the operating techniques and requirements of the management system and operational procedures. All wastes will arrive to site and be stored in sealed containers, or enclosed skips/RORO bins.  Given the industrial nature of this activity and industrial surroundings to the proposed site, and the existing operations at the previous site that have not given rise to complaints, noise modelling is not considered to be required.  An Odour Management Plan will be in place at the site, as document ref. 5195-CAU-XX-XX-RP-V-0306.
<b>BAT 9</b>	<i>BAT is to monitor diffuse emission or organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPS with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques given below.</i>
	See response to BAT 8.
<b>BAT 10</b>	<i>BAT is to periodically monitor odour emissions</i>
	See response to BAT 8 for odour.  Given the nature of the activity and the odour control techniques that will be in place, the installation is not expected to generate high levels of odour. A suitability qualified person will do a perimeter walk on a daily basis, if the daily walk identifies high levels of odour at the site boundary, the operator will investigate what activities were occurring on site at the time. If the odour proves to be coming from the site, the operator may



	<p>investigate further operating techniques to control/diminish the odour levels. See Amenity and Accidents Risk Assessment (document ref. 5195-CAU-XX-XX-RP-V-0302).</p> <p>The facility will operate in accordance with the Odour Management Plan ref. 5195-CAU-XX-XX-RP-V-0306. All abatement equipment will be in place prior to operations commencing. The operator will operate the facility in accordance with BAT for the sector and will review the operating techniques on an annual basis, upon changes to regulations/guidance or after a substantiated complaint as verified by the Environment Agency.</p> <p>If, upon arrival of waste at the site, the visual checks identify the odour content of waste may cause problems at the site, the waste will either be rejected, or if there is sufficient capacity to immediately treat or safely store the waste, the waste may be accepted.</p> <p>There will be no scrubber liquors associated with the site operations, therefore odours and their controls is not applicable.</p> <p>Regular daily checks will take place for odours on and around the site. If excessive odours are identified, the source of odour will be assessed by the operator. It will be dealt with, for example, by a cessation of an activity if required or further containing the odorous material.</p> <p>Observations shall be logged in the database system. Details of odour monitoring parameters are detailed within the Odour Management Plan.</p> <p>The carbon filter equipment will be calibrated in accordance with the manufacturer’s instructions or as agreed with the Environment Agency. These procedures will maintain an affective air extraction system from the enclosed building, reducing odour/VOC emissions and identifying any leaks or damage for repair.</p>
<p><b>BAT 11</b></p>	<p><i>BAT is to monitor the annual consumption of waste, energy and raw materials as well as the annual generation of residue and wastewater, with a frequency of at least once per year.</i></p>
	<p>The annual consumption of waste, energy, raw materials and the generation of waste water will be reported on an annual basis. It is considered however that the energy requirements of the operation are not considered to be significant, Specific Energy Consumption (SEC) information is not applicable to the site operations. Management of energy efficiency is included within the site’s environmental management system. Some energy maybe required by the enclosed building for the circulation and fan and to maintain negative pressure and air extraction.</p> <p>The use of Raw Materials is detailed further in Section 9.2 of this document</p> <p>Datasheets for the raw materials will be kept on site. A regular review of raw materials will be carried out as per requirements of ISO14001 environmental management system, this will include quality-assurance procedures, waste minimisation and substitutions for less polluting options.</p> <p>Water requirement for the operation are minimal. Use of mains water restricted to washing plant etc. Usage will be reported on a yearly basis within the annual report submitted to the Environment Agency.</p>

	Water efficiency objectives will be identified and reported on in an annual basis with an annual report including investigations into water saving technologies. Techniques to minimise water usage will be employed as per requirements of ISO14001 environmental management system.
	<b>Emissions to air</b>
Bat 12	<i>In order to prevent, or where that is not practicable, to reduce odour emissions, BAT is set up, implement and regularly review an odour management plan, as part of the environmental management system, that includes all of the following elements: Protocol for containing actions and timelines; Protocol for conducting odour monitoring as set out in BAT 10; Protocol for response to identified odour incidents, e.g. complaints An odour prevention and reduction programme designed to identify the source(s); to characterise the contributions of the sources; and to implement prevention and/or reduction measures.</i>
	See response to BAT 8 and 10
BAT 13	<i>In order to prevent or, where that it not practicable, to reduce odour emissions, BAT is to use one of more a combination of the following techniques: a) minimise residence time of potentially odorous waste in storage on in handling systems (e.g., pipe, tank containers) in particular in anaerobic conditions b) Using chemical treatment c) Optimising aerobic treatment</i>
	See response to BAT 8 and 10
BAT 14	<i>In order to prevent or, where that is not practicable, to reduce emissions to air, in particular of dust, organic compounds and odour. BAT is to use an appropriate combination of the techniques given below: a) Minimizing the number of potential diffuse emissions sources b) Selection and use of high integrity equipment c) Corrosion prevention d) Containment, collection and treatment of diffuse emissions e) Dampening f) Maintenance g) Cleaning of waste treatment and storage areas h) Leaks detection and repair (LDAR) programme</i>

	<p>Dust emissions are not considered to be a risk at the site from the proposed operations.</p> <p>Odour and VOC management will consist of the following measures: -</p> <ul style="list-style-type: none"> <li>• Olfactory odour checks undertaken daily.</li> <li>• Air extracted from the enclosed building, where the bulking and repackaging of potentially odorous and vaporous wastes is to be undertaken, will be sent through an activated carbon filter prior to discharge to air.</li> <li>• Emissions from filter to be tested monthly for TVOC’s for 6 months and assessed in accordance with H1 guidance .</li> <li>• All wastes accepted and leaving the site will be containerised or within enclosed skips/RORO bins to prevent odorous emissions.</li> <li>• High standards of site housekeeping to keep the site clean and tidy.</li> <li>• A preventative maintenance programme, including readily available spares, to ensure the efficient operation of plant and equipment.</li> <li>• Minimisation of drop heights during tipping/pouring of wastes during bulking/repackaging.</li> <li>• Effective staff training in respect of the causes and prevention of odour.</li> <li>• Supervised loading of waste loads on and off vehicles to avoid spillages/broken containers.</li> </ul> <p>The Odour Management Plan is included within this application as document ref. 5195-CAU-XX-XX-RP-V-0306.</p> <p>An Amenity &amp; Accidents Risk Assessment document ref: 5195-CAU-XX-XX-RP-V-0302 is in place which assess the risk and mitigation measures in place to reduce emissions to air. As per the company EMS and detailed in the Amenity &amp; Accidents Risk Assessment, maintenance of mobile plant/equipment will be in line with manufacturers specification.</p>
<p><b>BAT 15</b></p>	<p><i>BAT is to use flaring only for safety reasons or for non-routine operation conditions (e.g. start-ups, shut downs) by using techniques below</i></p> <ul style="list-style-type: none"> <li><i>a) correct plant design</i></li> <li><i>b) Plant management</i></li> </ul>
	<p>N/A</p>
<p><b>BAT 16</b></p>	<p><i>In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use the techniques detailed below:</i></p> <ul style="list-style-type: none"> <li><i>a) Correct design of flaring devices</i></li> <li><i>b) Monitoring and recording as part of flare management</i></li> </ul>
	<p>N/A</p>

Noise and Vibrations	
BAT 17	<i>In order to prevent, or where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan as part of the environmental management system.</i>
	<p>Given the industrial site setting of this activity and the existing similar operations on the previous site that have not given rise to complaints, noise modelling is not considered to be required.</p> <p>Noise management has been addressed within the Amenity and Accident Assessment, document ref: 5195-CAU-XX-XX-RP-V-0302 of this application. The main sources of noise at the site will be the arrival and departure of waste delivery and collection vehicles (HGVs, flatbeds etc.) and the movement of the two forklifts around site when handling or repackaging wastes.</p> <p>Noise management techniques are employed at the facility as set out in the Environmental Risk Assessment. In summary the site will employ the following BAT recognized techniques:</p> <ul style="list-style-type: none"> <li>• Ensuring site roads and surfaces are kept in good working order, with pot holes or damage identified repaired quickly.</li> <li>• Acoustic dampening of noise generating equipment, where possible.</li> <li>• Low level reversing alarms.</li> <li>• Plant and machinery will be selected to meet all legislation and statutory guidance on noise levels and to minimise noise levels from selected equipment and maintained to reduce noise emissions where possible.</li> <li>• If an item of plant is found to generate unacceptable noise levels, consideration will be given to modifying the equipment to incorporate noise suppression.</li> <li>• All plant and equipment in use will be regularly maintained to minimise noise resulting from their operation.</li> <li>• Deliveries and pickups from the site will only take place within the stipulated operational hours.</li> <li>• Minimizing drop heights when handling material.</li> <li>• Repackaging and bulking of wastes undertaken within the enclosed building will attenuate any noises.</li> </ul>
BAT 18	<p><i>In order to prevent or where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given below.</i></p> <ul style="list-style-type: none"> <li>a) <i>Appropriate location of equipment and buildings</i></li> <li>b) <i>Operational measures</i></li> <li>c) <i>Low-noise equipment</i></li> <li>d) <i>Noise and vibration control equipment</i></li> </ul>

	<i>e) Noise Attenuation</i>
	See Response to BAT 17.
<b>Emissions to Water</b>	
<i>BAT 19</i>	<i>In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that it not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given below.</i>
	The quantities of water required will be relatively small and restricted to the washing of plant and site surfaces (if necessary) and the emergency shower. No discharges of waste water will be made to surface water, groundwater or sewer. Contaminated/waste waters will be tankered off site and disposed of at a suitable licenced facility.
<i>BAT 20</i>	<i>In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of techniques.</i>
	See response to BAT 19
<b>Emissions from accidents and incidents</b>	
<i>BAT 21</i>	<i>In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all for the techniques given below, as part of the accident management plan (See BAT 1)</i> <i>a) Protection measures</i> <i>b) Management of incidental/accidental emissions</i> <i>c) Incident/accident registration and assessment system</i>
	An Accident Management Plan will be in place for the site operations and incorporated in to the site’s management system. See Section 3.3 of this document. The Accident Management Plan will incorporate the following: <ul style="list-style-type: none"> <li>• The likely causes of accidents.</li> <li>• The consequences of such accidents.</li> <li>• Prevention measures in place to reduce the likelihood of accidents.</li> <li>• How any accidents that do occur will be managed.</li> </ul> The potential for accidents and incidents hazards have been assessed and management techniques put in place as per: <ul style="list-style-type: none"> <li>• BAT assessment (this document); and,</li> </ul>

	<ul style="list-style-type: none"> <li>• Amenity and Accident Risk Assessment (document ref.5195-CAU-XX-XX-RP-V-0302).</li> </ul> <p>These documents have been prepared in support of this application, to ensure that in the unlikelyhood of the any accidents or incidents occurring, the operator has sufficient contingency plans and management techniques to ensure they will not lead to an impact on the environment.</p> <p>The company management system includes written procedures dealing with non-compliance (see Section 4.3). Any non-compliance will be reported to the site manager or foreman immediately. The site manager or their deputy will determine the course of action to be taken in accordance with the procedure.</p> <p>The company management system will include written procedures for handling, investigating, communicating and reporting environmental complaints and implementation of appropriate actions.</p>
<b>Material Efficiency</b>	
<i>BAT 22</i>	<i>In order to use materials efficiently, BAT is to substitute materials with waste</i>
	<p>The activity on site requires very limited resources as part of the proposed operations which include fuels/oils for the forklifts on site, granules as part of spill kits, and raw water for limited washing of plant or site surfaces and the emergency shower.</p> <p>The operator has in place as per requirement of the ISO140001 Environmental Management system:</p> <ol style="list-style-type: none"> <li>a) Procedures for the regular review of new developments in raw materials and any suitable replacements with an improved profile;</li> <li>b) Quality assurance procedures for controlling the impurity content; and,</li> <li>c) Waste minimization and less polluting options favoured.</li> <li>d)</li> </ol>
<b>Energy Efficiency</b>	
<i>BAT 23</i>	<p><i>In order to use energy efficiently, BAT is to use both of the techniques given below:</i></p> <ol style="list-style-type: none"> <li><i>a) Energy Efficiency plan</i></li> <li><i>b) Energy balance record</i></li> </ol>

	<p>See BAT 11. Energy requirements of the operation are not considered to be significant (Section 9.1).                  The techniques relevant to site operations, maintenance and housekeeping are in place and covered under an Environmental Management System. Housekeeping measures including maintenance and operational procedures in place for all areas of the site where the breakdown of machinery could lead to an impact upon the environment or compromise the operator’s ability to undertake normal site activities.                  These measures will be reviewed every year to determine if additional energy savings could be made and will include:</p> <ul style="list-style-type: none"> <li>• Switching off equipment when not in use.</li> <li>• Careful operation and maintenance of plant &amp; equipment.</li> <li>• Regular cleaning of plant &amp; equipment.</li> </ul>
	<b>General BAT Conclusion for the mechanical treatment of wastes</b>
	<b>Emissions to air</b>
	<i>BAT 25</i>
	N/A
	<b>BAT Conclusions for the mechanical treatment in shredders of metal waste</b>
	<i>BAT Conclusions 26-28</i>
	N/A
	<b>BAT Conclusions for the treatment of WEE containing VFCs and/or VHCs</b>
	<i>BAT Conclusions 29-30</i>
	N/A
	<b>BAT Conclusions for the mechanical treatment of waste with calorific value</b>
	<i>BAT Conclusions 31</i>
	N/A
	<b>BAT Conclusions for the mechanical treatment of WEEE containing mercury</b>
	<i>BAT Conclusions 32</i>
	N/A
	<b>BAT Conclusions for the biological treatment of waste</b>

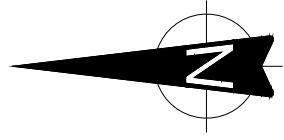
	<i>BAT 33</i>
	N/A
	<i>BAT 34</i>
	N/A
	<i>BAT 35</i>
	N/A
<b>BAT Conclusions for the aerobic treatment of waste</b>	
	<i>BAT 36</i>
	N/A
	<i>BAT 37</i>
	N/A
<b>BAT Conclusions for the anaerobic treatment of waste</b>	
	<i>BAT 38</i>
	N/A
<b>BAT Conclusions for the mechanical biological treatment (BMT) of waste</b>	
	<i>BAT 39</i>
	N/A
<b>BAT Conclusions for the physico-chemical treatment of solid and/or pasty waste</b>	
	<i>BAT 40-41</i>
	N/A
<b>BAT Conclusions for the re-refining of waste oil</b>	
	<i>BAT 42-44</i>
	N/A
<b>BAT Conclusions for the physico-chemical treatment of waste with a calorific value</b>	
	<i>BAT 45-47</i>



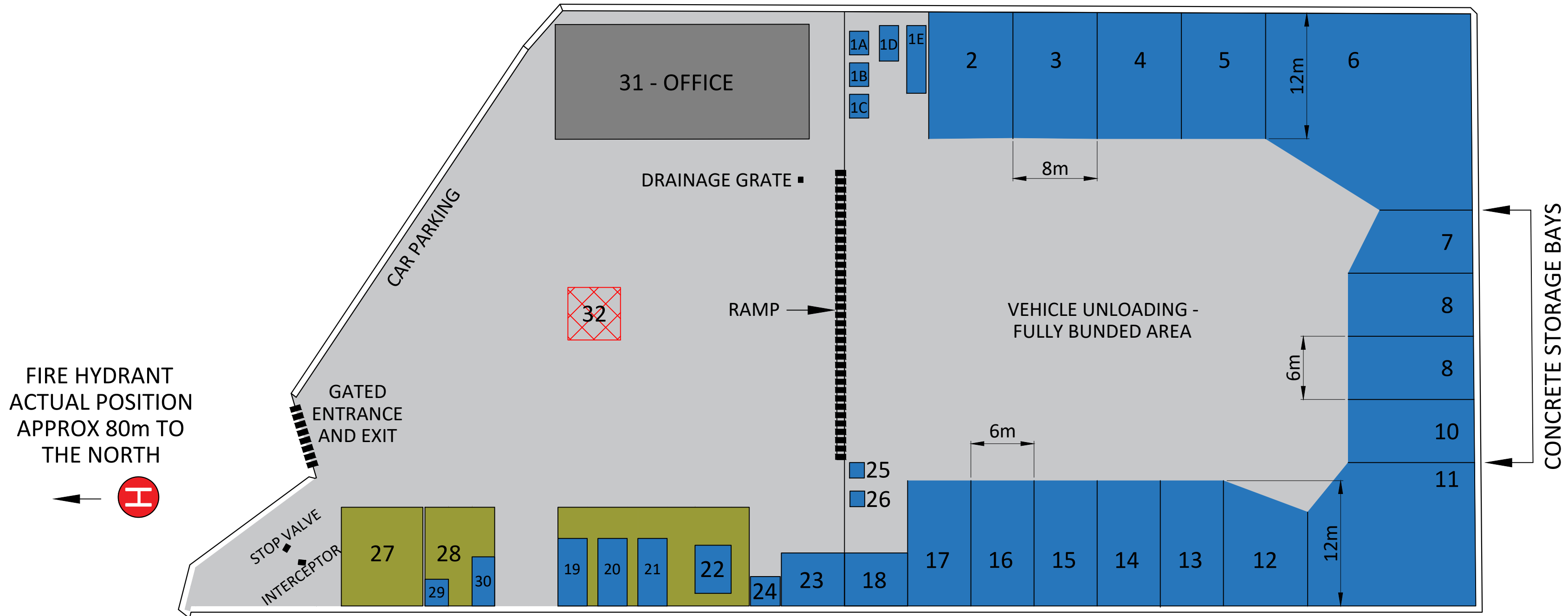
	N/A
	<b>BAT Conclusions for the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil</b>
	<i>BAT 48-49</i>
	N/A
	<b>BAT Conclusions for the water washing of excavated contaminated soil</b>
	<i>BAT 50</i>
	N/A
	<b>BAT Conclusions for the decontamination of equipment containing PCB's</b>
	<i>BAT 51</i>
	N/A
	<b>BAT Conclusions for the treatment of waste-based liquid waste</b>
	<i>BAT 52-53</i>
	N/A

**DRAWINGS**

**5195-CAU-XX-XX-DR-V-1800    Site Layout Plan**



PERIMETER KERBING & FENCING



NOTES

- DO NOT SCALE FROM THIS DRAWING, WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN METRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.

LEGEND

- FIRE HYDRANT - APPROX 80m TO THE NORTH
- SLEEPING POLICEMAN

FIRE HYDRANT  
ACTUAL POSITION  
APPROX 80m TO  
THE NORTH



Bay	Waste Stream	Capacity pallets	Max Tonnage	Hazard codes	ADR Class
1A	Oxidising Agents containing Acids	1	1.5	HP2,HP4,HP5,HP8, HP14	5, 8
1B	Oxidising Agents	4	4	HP2,HP4,HP5,HP8, HP14	5
1C	Organic Peroxides	1	1	HP2,HP4,HP5,HP8, HP14	5.2
1D	Water Reactives	1	1	HP3,HP4,HP5,HP8	4.3
1E	Solvent Vials	6	3	HP3,HP6,HP10,HP11	3, 6.1
2	Waste Reception Area	60	60	All HP Codes	3,4.1,4.2,4.3,5.1, 5.2,6.1, 8, 9
3	Low Hazard Waste	60	60	HP4,HP5,HP6, HP14	9
4	Oily Rags	60	60	HP3, HP4,HP5,HP7,HP10,HP14	3, 9
5	Flammable Solids, Adhesives and Resins	60	60	HP3,HP4,HP5,HP6,HP8	3, 4, 8
6	Flammable Solvents, Paints and Resins	60	60	HP3,HP4,HP5,HP6,	3, 4, 6.1
7	Oil/Water	60	60	HP3,HP4,HP5,HP7,HP10,HP11,HP14	9
8	Toxic Solids/Liquids, Lab Wastes, Agrochemicals	40	40	HP4,HP5,HP6,HP7,HP8, HP10,HP11,HP14	6.1, 8, 9
9	IT Communication and Household WEEE	40	40	HP5,HP6,HP7,HP14	9
10	Waste Batteries	40	40	HP3,HP4, HP5,HP6,HP14	4.3, 6.1, 9
11	Fridges and Fluorescent tubes, and Lamps	60	30	HP14	9
12	Acids	40	40	HP2,HP4,HP5,HP6,HP8	3, 5.1, 8, 6.1, 8, 9
13	Empty Packaging and Environmental Hazards	40	20	HP3,HP6,HP8,HP14	9
14	Alkali Waste, Caustic, Ammonia and Cyanides	40	40	HP4,HP5,HP6,HP8,HP14	5.1, 6.1, 8, 9
15	Bleach and Oxidising Liquids	40	40	HP2,HP8,HP14	5.1, 8, 9
16	Reception, Inspection, and Sorting	40	40	All HP Codes	3, 4.1, 4.2, 5.1, 5.2, 6.1, 8, 9,
17	Quarantine Bay, Spare Reception	40	20	All HP Codes	3, 4.1, 4.2, 5.1, 5.2, 6.1, 8, 9,
18	Emissions filtered bulking area	8	4	HP2,HP3,HP6,HP7,HP10,HP8,HP11,HP9	3, 5.1, 6.1, 8, 9

Skip area						
19	General Waste - Roll on Bin	35	20	Non Haz	N/A	
20	Asbestos - enclosed Roll-on bin	35	20	HP7,HP14	9	
21	Scrap Metal - Roll on Bin	40	20	Non Haz	N/A	
22	Pigeon Guano - covered skip	20	10	Non Haz	N/A	

Gas Cylinders - Metal cages, Drums and Wastesafes						
23	Misc Gases including Aerosols, Butane, Propane and other Hazardous and Non Hazardous Gases	20	20	HP2,HP3,HP6,HP8,HP14	2.1, 2.2, 2.3, 3, 6.1, 9	
24	Acetylene Gas	4	2	HP3	2.3	

Inside Bay 18	
25	Emergency Shower
26	Drum Crusher

Non Waste Areas	
27	Consumable storage, empty drums and IBC's
28	Fork lift truck parking and charging/refuelling area
29	Fuel storage - on a bunded IBC
30	Laboratory
31	Office and toilet
32	Quarantine area in event of fire

P02	UPDATED DRAINAGE ELEMENTS	EJD	SH	AS	15.12.22
P01	ISSUED FOR INFORMATION	EJD	AS	AS	02.12.22
REV	MODIFICATIONS	BY	RE	AP	DATE
PURPOSE OF ISSUE					STATUS
FOR INFORMATION					S2
CLIENT:					
PROJECT:					
RIVERSIDE HAZARDOUS WASTE TRANSFER STATION					
TITLE:					
NEW SITE LAYOUT					
DESIGNED BY	DRAWN BY	REVIEWED BY	AUTHORISED BY		
OTHERS	EJD	AS	AS		
DATE	SCALE @ A2	JOB REF:	REVISION		
28-11-2022	NTS	5195	P02		
DRAWING NUMBER					
5195-CAU-XX-XX-DR-V-1800					

Registered Office: InTec, Parc Menair, Bangor, Gwynedd, LL57 4FG Company Registered No: 06716319

# APPENDIX 1

## Environmental Sampling Plan



## Environmental Sampling Plan

### **Objective**

To identify when sampling is required, document the methods of sampling and recording of samples and the interpretation of results.

At Williams Environmental we are required to assess the chemical composition of wastes for the following reasons:

- Basic Characterisation of Wastes
- Compliance testing
- On site verification
- Outgoing load composition

Other tests will be carried out to check that wastes can be mixed together safely without chemical reaction and to identify non routine wastes such as asbestos.

This will be achieved by use of Laboratory analysis from clients, 3rd party disposal sites and tests carried out at Williams Environmental.

A William's representative will often sample a waste at the enquiry stage or receive wastes from a waste producer. The chemist will decide whether to test the wastes on site or send them to another laboratory.

### **Sampling Methods**

A sampling kit comprises of

- Sample bottles
- Sampling tube for liquids
- Spatula for solids
- Labels
- Cleaning wipes or Rags
- PPE for task
- If sampling liquids care should be taken to The tests are to be recorded in the Laboratory Notebook

When sampling liquids ensure a representative sample includes all liquid phases and sludge's.

When sampling solids ensure the sample is taken from at least 6 separate areas of the solid.

For contaminated soils, sample from 6 different areas, if the sample is to be combined shake/stir the mixture well.

For outgoing tanker loads, only sample after loading and obtain a sample from the tanker.

### **Basic Waste Characterisation**

This refers to the analysis either supplied in advance by the waste producer, analysis performed off site by a private laboratory or 3rd party disposal site and basic tests performed on site by the Williams chemist.

Examples of where this analysis is appropriate:

- Initial investigation of wastes that have no data sheet
- Mixtures of liquids
- Contaminated soils
- Leachate water

The results will be used to determine the Hazard codes of the waste and hence its EWC code, disposal route and cost.



Tests to be performed or analysis received from offsite labs depend on the materials to be tested.

Waste Description	Useful tests	Comments
Liquids	pH / Flammability / TOC / Acidity	Consider mix test with current bulkable wastes
Soils	TPH and PAH / Metals / pH / Cyanide / TOC	If Hazardous then full WAC test required prior to Haz Landfill
Leachate water	TOC / Flammable / Metals / COD / pH / Cyanide	Check the aqueous waste is Non Haz and no flammable layer
Oils	Water content / Oil content / Viscosity / Solids	Look for layers / miscibility with water / solids

The tests are to be recorded in the Laboratory Notebook and results filed accordingly for future use.

### Compliance Testing

Where regular wastes require a periodical check to see that they conform to the current waste classification and where there are thresholds that these have not be exceeded.

- Repeat wastes from customers are checked to see that they still conform and there has not been a change in process and therefore waste classification, i.e. for drilling fluids, waste oils and acids/alkalis.
- On site tests we may consider relevant include PH, water miscible, viscosity, flammability, odour, colour, solid content
- The tests are to be recorded in the Laboratory Notebook

### On Site Waste Verification

These are confirmatory checks only not a stand alone hazardous waste assessment. The tests may include

- Identification of visually non-conforming wastes in bulk containers
- Check of key relevant characteristic, e.g. pH, colour or odour
- The tests are to be recorded in the Laboratory Notebook

### Outgoing Load Verification

Waste which leave site in bulk tankers are to be sampled, then if there is a discrepancy in the waste description or cost then these can be verified with a test of our sample.

Waste samples should be kept for 3 months.

### Mixing Tests

- Mixing test to confirm substances are compatible to be mixed, i.e. no heat, fumes or chemical reaction will occur. Consider use of thermometer, pH meter and also look for colour change and any fumes generated
- The tests are to be recorded in the Laboratory Notebook

### Laboratory Wastes

Test can be carried out on unknown wastes, these can come from either the client not knowing what they have or a bottles label becoming unattached during transit. For liquids observe and test for colour, odour, pH, and when the generic nature of the waste is confirmed i.e. as a solvent, acid alkali etc then try a mixing test with bulk wastes in a small amount before deciding on the final disposal route. Unconfirmed unknowns should not be brought to site.



# Williams Environmental

Waste Management that doesn't cost the Earth

Tests on liquids wastes can be carried out prior to bulking, i.e. HPLC waste may be acidic and below a PH of 3 would be unsuitable to be bulked with the mixed flammable solvents.

## **Asbestos wastes**

Wastes suspected to be contaminated or containing asbestos cannot be analysed at Williams Environmental's laboratory however there are numerous sites which test for asbestos at small cost <£25.

Only a small sample is needed, about the size of a thumbnail and these are examined under an electron microscope.

## **Samples Sent Away for Analysis**

Samples sent for analysis at the 3rd party laboratory i.e. currently the ERG laboratory, will be recorded in the Sample Analysis Records Book and a Waste Declaration Document completed. Feedback or results will be filed in the sample analysis records book folder with the original waste declaration.

A copy of the Waste Declaration giving details such as composition, physical state, volumes, pH and signed by a William's employee will accompany the waste.

Compiled by M. Price

Date 09.06.14

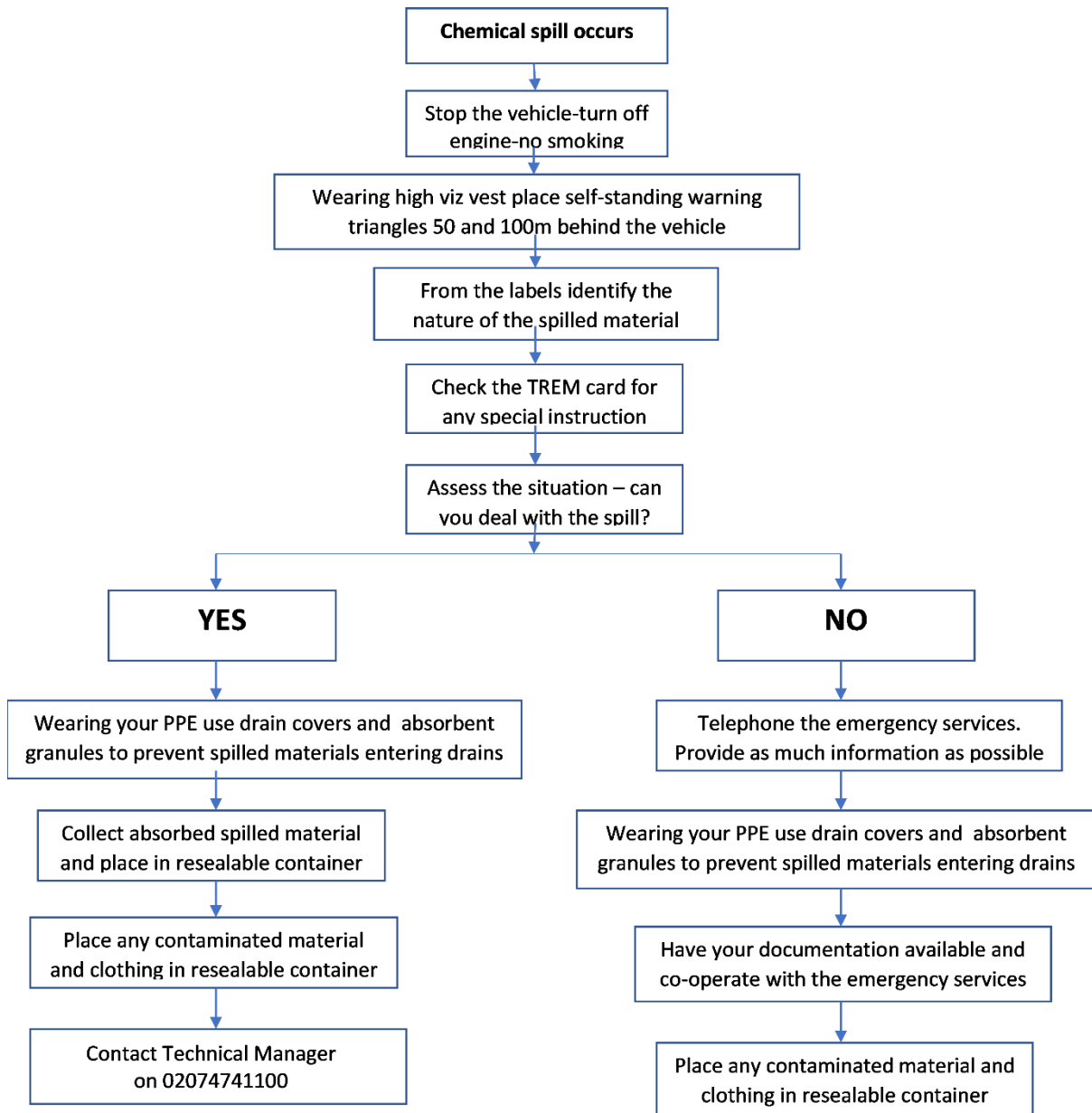
## APPENDIX 2

### Operational Procedure 24 – Spillage of Chemical Waste During Transport





## Procedure 24. Spillage of chemical waste during transport



**Do not attempt to fight a fire that involves a dangerous goods load. Do not attempt to carry out actions that you are not competent to deal with. Wear appropriate PPE at all times.**

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

**Tel:** 01248 672666

**Email:** [contact@caulmert.com](mailto:contact@caulmert.com)

**Web:** [www.caulmert.com](http://www.caulmert.com)