Wastege Waste Management Limited

Fire Prevention and Mitigation Plan

Application for Bespoke Environmental Permit for a
Waste Transfer Station

Gibson Lane (South), Melton, Hull, East Riding of Yorkshire HU14 3HN.

Report Ref: CE-GL-1817-RP05-FPP-Final



Science, Technology & Prototyping Centre, University of Wolverhampton Science Park, Glaisher Drive, Wolverhampton WV10 9RU. Company Registration no. 06544898

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Final	20/12/2021	Louise Parsons BSc (Hons), MSc	Stuart Thompson BSc (Hons), MCIWM, CEnv

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Crestwood Environmental Ltd.

Science, Technology and Prototyping Centre University of Wolverhampton Science Park,

Glaisher Drive,

Wolverhampton,

WV10 9RU

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk

Web: www.crestwoodenvironmental.co.uk

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Drawing No CE-GL-1817-DWG01

Site Boundary and Layout Plan

1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1 Crestwood Environmental Ltd has been commissioned by Wastege Waste Management Ltd to prepare a Fire Prevention and Mitigation Plan (FPMP) to support a Bespoke Environmental Permit to authorise the receipt, processing, storage and transfer of hazardous and non-hazardous waste streams.
- 1.1.2 The application refers to operations that will take place at Gibson Lane, Melton, Hull, East Riding of Yorkshire, HU14 3HN (*the Site*) and will be operated by Hazcare Limited (*the Applicant and the Operator*).
- 1.1.3 This FPMP has been prepared in accordance with the Health and Safety Executive (HSE) HSG71 Chemical Warehousing: The storage of packaged dangerous substances (Fourth Edition, 2009) and HSG51 Storage of flammable liquids in containers (Third Edition, 2015).
- 1.1.4 To ensure robustness, despite it not applying to hazardous waste, reference has also been made to the Environment Agency s Fire Prevention and Mitigation Plan Guidance-Waste Management New Guidance Note 16 version 2 August 2017 updated January 11 2021 and to the Waste Industry Safety and Health Forum document entitled Reducing Fire Risk at Waste Management Sites, issue 2, April 2017.
- 1.1.5 The Environment Agency guidance for FPMP's states:

'This guidance also does not apply to the storage of coal, materials, or wastes that are:

- hazardous excluding WEEE, but including hazardous waste batteries accepted as a separate waste stream, covered by Sector Guidance Note 5.06
- dangerous substances stored under the Control of Major Accident Hazards Regulations
- liquids
- healthcare wastes, covered by Sector Guidance Note 5.06 or Healthcare waste: appropriate measures for permitted facilities

This guidance does not apply to non-waste materials such as gas cylinders, aerosols and combustible liquids. They are covered by Guidance for the storage and treatment of aerosol canisters and similar packaged wastes: addendum to S5.06. However, you must still consider these in your fire prevention plan because they can cause or increase the impact of fire on a site. For example, you may need to use separation distances to manage the risk from these materials'.

1.2 THE SITE

- 1.2.1 The Site occupies approximately 0.1 hectares of land in a parcel of industrial area some 1.5 km directly south of the centre of the village of Melton with village of North Ferriby at approximately 1.4km to the east of the Site's boundary. It is located c. 14.5km to the south-west of central Hull in the East Riding of Yorkshire and proximal to the River Humber and Estuary which is 221m to the south of the Site at the closest point.
- 1.2.2 Contiguous to the boundary of the Site to the north is the Old Drain brook whilst to the east is Gibson Lane; beyond these are unoccupied grassland which is also present to the west of the Site. To the immediate south is a patch of baron land beyond which is Bayram Timber yard and M-AR site construction specialists.
- 1.2.3 Land use in the vicinity is predominantly rural agricultural land, grassland and shrubland with clusters of towns and villages and industrial areas. There are eight European Designated Environmental sites consisting of three Sites of Special Scientific Interest (SSSI), one Special Area of Conservation (SAC), two Special Protection Area (SPA) and two RAMSAR sites.
- 1.2.4 Sensitive receptors within a 1km radius of the Site's boundary have been identified as part of this FPMP with an evaluation undertaken of the potential risk posed in the event of a fire on-Site and is based on the vulnerability of the receptor and the distance and direction in relation to the Site. Reference should be made to Section 3.5.

1.3 FIRE PREVENTION OBJECTIVES – OUTLINE METHODOLOGY

- 1.3.1 The purpose of this FPMP is to ensure that all reasonable measures are undertaken to prevent a fire.
- 1.3.2 The FPMP has been prepared in accordance with The Health and Safety Executive (HSE) HSG71 Chemical Warehousing: The storage of packaged dangerous substances (Fourth Edition, 2009) and Storage of flammable liquids in containers (Third Edition, 2015). It provides a plan to minimise the likelihood of fire breaking out, a means of extinguishing fire if it broke out, and a statement of methods designed to minimise the spread of fire.

1.4 OVERARCHING MANAGEMENT RESPONSIBILITY

- 1.4.1 The Site Manager has the responsibility for ensuring that the potential for fire outbreak arising from operations on the Site is minimised. Adequate staffing levels is maintained at all times to ensure the effective operation of the facilities.
- 1.4.2 In line with current industry best practice, the fire prevention controls set out in the sections below are used as the 'appropriate measures' to minimise the risk of and, wherever possible, prevent outbreak of fire associated with Site operations at Gibson Lane, Melton, Hull, East Riding of Yorkshire, HU14 3HN.

1.5 METHODS AND PROCEDURES TO MAINTAIN COMPLIANCE

1.5.1 Site meetings are held regularly, i.e. during monthly Health and Safety meetings, for Site

management to discuss current and planned Site operations with respect to their potential for generating fire and accordingly the FPMP is updated as necessary. Identified actions arising from the meetings and responsibilities for their completion is recorded within the meeting minutes prior to circulation within Hazcare Limited to the relevant personnel.

- 1.5.2 Additional and more frequent reviews of the FPMP will be carried out to reflect any changes to operations on-Site and in circumstances that warrant the requirement. Such instances include but are not limited to: an increase in waste quantities accepted on-Site, specifically combustible materials; after any fire incidents in order to make improvements if required; any development made on-Site such as modifications to existing buildings or the incorporation of new infrastructure and/or the installation of new equipment or plant.
- 1.5.3 The FPMP is a live, working document which is made readily available and clearly identified on Site and all staff are aware of the location of the plan. It is referenced in the Environmental Management System (EMS) and there is a requirement that all contractors working on Site are briefed on the contents of the FPMP.
- 1.5.4 All staff receive training, which includes on-Site fire drills, in regard to the measures and procedures outlined in the FPMP with refresher training conducted quarterly. New employees will receive inductions which will involve the same training with records of all training maintained to ensure refresher courses are carried out as scheduled. Reference should be made to Section 8 'Fire incident and Procedures Emergency Plan'.
- 1.5.5 Regular Fire Prevention Plan Exercises are carried out quarterly. The frequency of exercises will be reviewed and changed depending on the results of exercises, reviews of incidents and near misses and the turnover of staff.

2 SITE PROCESS DESCRIPTION

2.1 WASTE ACCEPTANCE

- 2.1.1 The waste transfer station intends to accept up to 5000 tonnes of non-hazardous and 2600 tonnes of hazardous waste per annum and will have the capacity to store and process up to 7600 tonnes per annum. All waste streams arise predominantly from the local area and will be delivered predominantly by the operators own transportation, those being HGVs and vans.
- 2.1.2 Materials brought to the waste transfer station will be processed within one month, three months maximum and, when fully operational, up to ten tonnes per day of material is brought to Site. Continuous separation of and, where necessary, removal off Site of up to ten tonnes per day of waste within one month ensures a regular turnover of material in the waste transfer station. This operational practice mitigates against the development of hot spots, leakages or spillages.
- 2.1.3 Drawing No CE-GL-1817-DWG01 shows the layout of the Site facilities, operational areas, waste storage dimensions and Environmental Permit boundary.

2.2 SITE ACTIVITIES

- 2.2.1 The dedicated waste transfer building incorporates a vehicle entry and exit point, fitted with fast action roller shutter doors. Internal bay concrete walls will divide the building internally into four separate bays with the configuration of two adjacent bays on either side of the internal space. The only vehicles used for on-Site activities are forklifts which also have access to the inside of the building.
- 2.2.2 A banksman instructs drivers to manoeuvre into the specific bay for off-loading according to the type of waste being delivered to ensure materials are stored, bulked up and dispatched separately.
- 2.2.3 Hazardous and non-hazardous wastes for recovery or disposal off-Site are manually sorted, separated and bulked up internally within the processing building. Packaging such as cardboard and plastic are stored separately in an external skip under an S1 and S2 exemption licence No waste is treated.
- 2.2.4 Fully sealed containers are also used for storing batteries as per types listed in Appendix 1. All containers are stored external to the waste transfer building on the impermeable concrete yard area.
- 2.2.5 The Operator is aware that under the Hazardous Waste (England and Wales) Regulations 2005, Regulation 18 prohibits the mixing of hazardous waste with non-hazardous waste. On account of this, they are strictly stored in separate bays. Flammable and non-flammable hazardous wastes are also stored separately in bays that are not juxtaposing.
- 2.2.6 The waste transfer building has an impermeable concrete base that is continuous with the external yard area which is also fully concreted. A bund, 100mm high, encompasses the entire Site with the exception of the entrance (which also serves as the exit point) which comprises of a sleeping policeman. The bunded area is aligned with the Site boundary, which incorporates the waste transfer building. A canopy will extend from the building across the entire yard as shown in the plans within the approved Planning permission (ref: 21/03985/CW). The purpose of the design is to ensure that rainwater and any inadvertent liquors or fire water (in the unlikely event of a fire) are fully contained.
- 2.2.7 No substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) Regulations are used at the Site for the operation of the facility.

3 ENVIRONMENTAL SETTING

3.1 SURFACE WATER / RIVERS

- 3.1.1 Within a 250m radius of the Site's boundary, there is one identified water feature, termed as the Old Drain located 83m to the north-east of the Site at its closest extent. With a south easterly flow regime, this merges into the Redcliff Channel of the River Humber orientated to the south of the Site at c. 395m. It does not fall under a water body catchment as it is located in a coastal catchment area. The operational catchment is Lower Hull whilst the management catchment is Hull and East Riding.
- 3.1.2 There are no surface water abstractions likely to be affected by this Site. The closest is a historical licence located 1548m north-west of the facility.

3.2 GROUNDWATER

- 3.2.1 The British Geological Survey (BGS) maps state that the groundwater on Site would be held within the superficial deposits which has an aquifer status of Secondary A, that being permeable layers capable of supporting water supplies at a local rather than strategic scale and in some cases, forming an important source of base flow to rivers.
- 3.2.2 In hydrogeological terms, the bedrock strata on-Site is designated as an Unproductive aquifer which comprises of rock layers with low permeability that have a negligible significance for water supply or river base flows.. There are no groundwater abstractions likely to be affected by the facility. The closest active licence is located 1881m north-west of the Site.

3.3 DESIGNATED SITES

- 3.3.1 The Magic Map website (http://www.natureonthemap.naturalengland.org.uk/magicmap.aspx) shows that there are eight European Sites (i.e. Special Area of Conservation (SAC), Special Protection Areas (SPA's), RAMSAR sites), Sites of Special Scientific Interest (SSSI), national Nature Reserve (NNR), Local Nature Reserve (LNR) or other statutory within a 2km radius of the application.
- 3.3.2 Of these, three are designated statutory SSSI, the closest being the Humber Estuary which is 221m south of the Site's boundary. A further section of the Humber Estuary is also a SSSI at 551m to the east of the Site. Melton Bottom Chalk Pit at 1736m to the north is another identified SSSI within 2000m of the Site.
- 3.3.3 There are two Conserved wetland sites (Ramsar Sites), designated under the Convention on Wetlands of International Importance, within 2000m of the Site's boundary. Both are portions of the Humber Estuary, the largest macro-tidal estuary on the British North Sea coast, at 220m to the south and 1944m to the west of the Site. Detailed overviews of the species these areas support can be found in the Groundsure report in Appendix 1.
- 3.3.4 The portion of the Humber Estuary located at 221m to the south of the Site is also designated as a SAC with the features of interest being the subtidal sandbanks; estuaries; intertidal mudflats and sandflats; lagoons; annual vegetation of drift lines; glasswort and other annuals colonising mud and sand; cord-grass swards; Atlantic salt meadows; shifting dunes; shifting dunes with marram; dune grassland; dunes with sea-buckthorn; sea lamprey; river lamprey; allis shad; twaite shad; grey seal and common seal.
- 3.3.5 In addition, there are two sections of the Humber Estuary classified as a SPA at 221m to the south and 1877m to the east of the Site.
- 3.3.6 SSSI Impact Risk Zones have been developed in order to allow for the assessment of potential risks that development proposals may pose to SSSI's. Records indicate that the Site itself occupies an area defined as a SSSI Impact Zone. As such, some types of developments require consultation; details of which are:
 - All applications All Planning Applications (except householder), Outside Or Extending
 Outside Existing Settlements/urban Areas Affecting Greenspace, Farmland, Semi Natural

Habitats Or Landscape Features Such As Trees, Hedges, Streams, Rural Buildings/structures

- Infrastructure Pipelines, pylons and overhead cables.
- Any transport proposal including road, rail and by water (excluding routine maintenance).
- Airports, helipads and other aviation proposals.
- Wind and Solar Solar schemes with footprint > 0.5ha, all wind turbines.
- Minerals, Oil and Gas Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
- Rural non-residential Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.
- Residential Residential development of 50 units or more.
- Rural residential Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.
- Air pollution Any development that could cause AIR POLLUTION (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores).
- Combustion All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
- Waste Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.
- Composting Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
- Discharges Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream (NB this does not include discharges to mains sewer which are unlikely to pose a risk at this location).
- Water supply Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply.
- 3.3.7 Within a 2000m radius of the Site, there are no identified NNR, LNR, Designated Ancient Woodland, Biosphere Reserves, Forest Parks, marine Conservation Zones, green Belt or Proposed Ramsar, Possible SAC or Potential SPA.

3.4 AIR QUALITY AND PREVAILING WINDS

3.4.1 The Site does not lie in a designated Air Quality Management Zone. The closest is Scunthorpe AQMA

- (declared on 01/11/2005 and amended on 19/03/2018) and Low Santon AQMA (declared on 01/12/2008 and revoked on 019/03/2018), both for PM10.
- 3.4.2 According to DEFRA's Background Air Pollution Mapping Data and based on the reference background map 2018, background emission concentrations in the locality of the Site are $9.50\mu g/m^3$ and $12.70\mu g/m^3$ for NO_2 and PM_{10} respectively. National air quality objectives and European Directive limits and target values stipulate that concentrations of PM_{10} measured at 24-hour mean levels should not exceed $50~\mu g/m^3$ for more than 35 times a year. NO_2 concentrations should not exceed $40\mu g/m^3$ when measured on an annual mean basis. Based on background concentrations, the air quality in the vicinity of the Site is unlikely to exceed these parameters.
- 3.4.3 Statistics based on observations taken from the nearest weather station at West Hull/Boothferry park (c. 9.85 km north-east of the Site) between April 2012 and May 2021 indicate that, although the prevailing winds are variable, they originate predominantly from the south-west with an average speed of 4 knots. The rose diagram in Diagram 1 is conducive of this showing the wind strength distribution and direction is also chiefly from the S-W. (see Diagram 1). Data obtained from https://www.windfinder.com/windstatistics/llanfrechfa

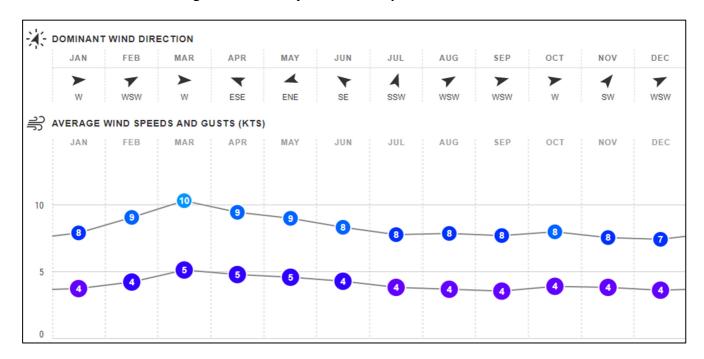


Diagram 1 Monthly mean wind speed statistics and directions

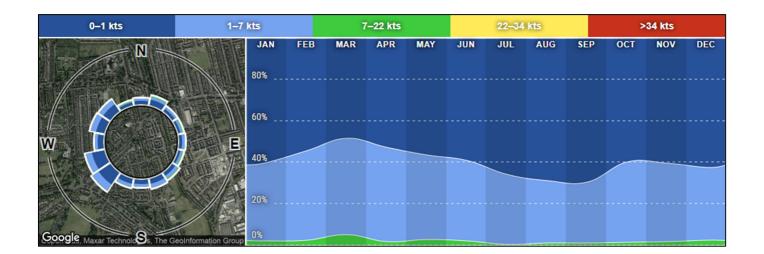


Diagram 2 Rose Diagram showing Wind Strength Distribution and Direction

3.5 SENSITIVE RECEPTORS

- 3.5.1 A review of potentially sensitive receptors within a 1km radius of the Site has been undertaken using the hierarchy of hospitals, schools, childcare facilities, elderly housing and convalescent facilities i.e. areas where inhabitants are more vulnerable to the adverse effects of exposure to smoke. Food manufacturers, major infrastructure and protected sites such as SSSIs, SPAs and SCAs are also considered, see Table 1 and Figure 1. Residential properties are considered separately and their locations are detailed in Table 2 and Figure 2.
- 3.5.2 In terms of predicted exposure risk, levels have been determined via a qualitative assessment which evaluates the likelihood of exposure to smoke emissions based on the receptors' proximity to the Site and the location of the sensitive receptors in regard to the prevailing wind direction as shown in Figure 1 above.
- 3.5.3 A 1km radius has been applied as it reflects the maximum potential distance that smoke could reasonably be expected to cause affects in extreme meteorological conditions without any mitigation measures in place. A summary of the identified potentially sensitive receptors within this range along with the overall exposure levels and principal receptor features has been tabulated in Table 1. For each receptor within the categories the determination of the overall risk classification has been based on the dominant risk level.
- 3.5.4 Within a 1km radii of the Site, no protected sites such as SSSI's, SAC, SPA or RAMSAR have been identified.
- 3.5.5 Note that given the absence of hospitals, elderly housing and convalescent facilities in the search area, the sensitive receptors are categorised in terms of distance as opposed to the receptor hierarchy mentioned in paragraph 3.5.1. there is only one school within 1km of the Site but it is considered remote and it is not located in the direction of the prevailing wind.

Table 1 Representative Sensitive Receptors (Reference Point refers to locations on Figure 1)

Facility and Reference Point	Distance and Direction from Site (m)	Overall exposure level	Comments
1.Bayram Timber	Adjacent W	Medium - High	The receptor is not located downwind of the prevailing wind and intervening fencing and vegetation obstruct pathways
2.M-AR off site Construction Specialists	60m W	Low-Medium	As above
3.Sewage Works	105m N	Low	There is a medium frequency of winds from source to receptor and intervening fencing, vegetation and buildings serve as a barrier.
4.Humber Estuary (SSSI, SAC, SPA & Ramsar)	221m S	Low	Intervening buildings, fencing and vegetation block the pathway from the source and the receptor is not located downwind of the dominant wind direction
5.Melton Waste Park	235m N	Low	Although there is a medium frequency of winds from the source to receptor, the pathway for emissions is obstructed by fencing, vegetation and existing buildings.
6.Melton Enterprise Park	240m NE	Low	The receptor is located directly downwind of the prevailing wind, however, intervening trees, fencing and buildings obstruct pathways.
7.Humber Estuary (SSSI)	551m E	Low	Despite a medium to high frequency of winds in the direction of the receptor, it is considered relatively remote from the source.
8.Water Ski Club	588m W	Low	Fencing, vegetation and buildings block the pathway from the source, there is a low frequency of winds in the direction of the receptor and it is distal from the source.
9.Garden Centre	815m N	Low	Intervening structures obstruct the pathway of emissions and the receptor is considered remote from the source.
10.Residential Properties	825m N	Low	As above

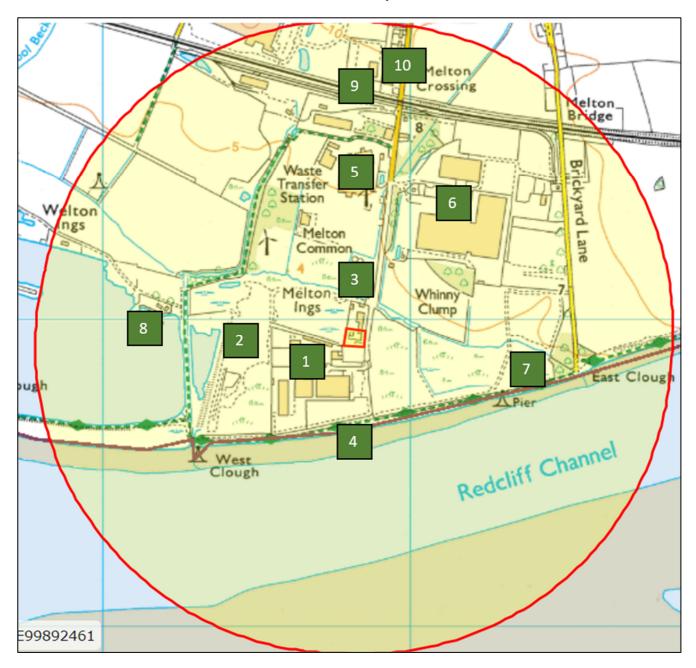


Figure 1. Sensitive Receptors within a 1km radius of the Site (red line denotes the boundary of the Site)

4 FIRE PREVENTION

4.1 FIRE PREVENTION PLAN

- 4.1.1 This FPMP is readily available and clearly identified on Site and all staff are aware of the location of the Plan. It is referenced to in the EMS and there is a requirement that all contractors working on Site are briefed on the contents of the Plan.
- 4.1.2 Regular Fire Prevention Plan Exercises are carried out on a quarterly basis although frequency will

change depending on results of exercises, any incidents and turnover of staff.

4.1.3 The following aspects have been considered to make up this FPMP.

4.2 WASTE STORAGE DURATION

- 4.2.1 The waste transfer building has a design capacity capable of separating up to ten tonnes/day per day of incoming material. The maximum period of storage is normally seven days in the waste bays before processing or removal of waste off Site. The short turn-around time ensures the mitigation against the build-up of hot spots.
- 4.2.1 Incoming wastes are typically processed on a first in first out basis, albeit that any potentially flammable wastes or wastes that have been placed in quarantined storage will be prioritised for removal.
- 4.2.2 The use of first in first out principles ensures the Site operates a rapid turnover of waste materials and that the waste bays are emptied every month at a minimum and three months maximum so that all materials are removed and the bays are totally emptied (including the corners of the bay). This prevents the potential for any build-up of material and ensures that any degradable or spilled materials are rapidly removed.
- 4.2.3 Site cleaning procedures include sweeping out the bays and containers, including the corners, to ensure all material is removed and potentially combustible residues do not remain in-situ. Operational staff record the housekeeping of the bays and containers on the appropriate checklist, maintained in the Site office, in order to adhere to the maximum emptying and cleaning frequency of 48 hrs.
- 4.2.4 Waste acceptance procedures require that unloading of waste deliveries are supervised by Site staff. The waste stacks will be compliant with the HSE guidance on stack/pile configuration:

 https://www.hse.gov.uk/pubns/books/hsg51.htm

 and

 https://www.hse.gov.uk/pubns/books/hsg71.htm
- 4.2.5 The operational procedure involving clear out of bays and where necessary, export of waste of up to a maximum of ten tonnes/day off Site ensures short duration time and mitigation against heat build-up and the potential for leaks or spillges.

4.3 QUARANTINE PROCEDURE

4.3.1 A quarantine area will be designated in the external yard area to the south-west corner of the Site. It will be clearly demarcated to allow the segregation of identified unsuitable wastes and located remote from combustible material. Quarantined waste will be removed as soon as practicable in appropriate vehicles and properly disposed of at a suitable alternative permitted site.

4.4 MONITORING OF WASTE BAYS

4.4.1 All deliveries of incoming material to the waste bays will be supervised by operational staff. The external areas and the interior of the waste transfer building will be extensively equipped with CCTV

which enables visual monitoring and allows for any smoke, vapours or hot spots to be identified.

- 4.4.2 At a minimum of twice daily, the temperature of the waste stacks and piles will be monitored using a hand held thermal temperature monitor. Should the results indicate a temperature rise of 5°c from the previous temperature, monitoring will be conducted hourly.
- 4.4.3 Due to the quick turnaround of waste on-site, the probability of self-combustion is unlikely and the most probable cause of fire is arson. The presence of the CCTV will therefore act as a deterrent and minimise the likelihood of a fire occurring. In addition, this will allow the Operator to inform the fire service and attend the Site to ensure the fire is extinguished within a maximum timeframe of four hours.
- 4.4.4 In view of the fire prevention measures outlined above in Section 4.4.1 and 4.4.2, the possibility of the fire spreading within the Site itself or to neighbouring locations is minimised.
- 4.4.5 Waste stockpiles and stacks will be inspected at the beginning and end of the operational day to identify any hot spots, spills or leakages. No treatment, shredding or crushing of material will take place on Site so wastes are stored in their largest form. Liquors are stored in IBC's and will be double stacked in the waste bays within the building to a height of 2.3m. The bay walls adhere to the HSE guidance in so far as they are beyond the 2m limit.
- 4.4.6 Wastes will not be burnt at the site and there will be no waste incinerator plant on site therefore no source of ignition. There will be no heating inside the building and no hot works activities will be conducted at the Site.

4.5 CONTINGENCY PLANS

4.5.1 In the event of an un-planned incident on Site, the company from whom the waste derives will be informed and the delivery cancelled.

4.6 ARSON

4.6.1 The Site will be surrounded by palisade fencing and lockable gates with controlled vehicular entry during working hours. In addition, the Site will be fully fitted with CCTV monitoring with no blind spots in order to detect any attempts at unauthorised entry.

4.7 PLANT AND EQUIPMENT

- 4.7.1 An Operating and Maintenance Manual is held by Site management in line with Hazcare Ltd procedures for plant and equipment. As a part of these procedures all plant and equipment on Site which requires maintenance will be assessed for fire risk. Checks will be programmed and records retained with a log of maintenance carried out.
- 4.7.1 Site vehicles will be fitted with dust filters and fire extinguishers will be readily available for use across the Site in strategic locations (reference should be made to Drawing CE-GL-1817-DWG01 for locations). Vehicles and equipment will be regularly inspected for electrical faults and for any fuel or combustible liquid leakages. Spill kits will be readily available on the Site and within each vehicle in

the event of such leaks. When not in use, mobile plant will be stored as indicated on Drawing No. CE-GL-1817-DWG01 away from any combustible waste materials. A log of inspection and maintenance of all plant and equipment will be maintained which will include a record of any spills or leakages and the action taken.

4.8 INFRASTRUCTURE AND SITE INSPECTIONS

4.8.1 A programme of Site inspections will be scheduled for all operational areas as part of Site operating procedures. Records of these inspections will be a standard requirement of each working day. Records will be kept of inspections with requirements for maintenance and actions taken.

4.9 ELECTRICAL FAULTS

4.9.1 All electrical work on Site will carried out by fully certified qualified electricians and it will comply with the relevant British Standard for design and installation of electrical equipment. Detailed operational manuals for any equipment requires it to be checked and maintained as part of a planned maintenance regime. In particular, vehicles and equipment will be regularly inspected daily by Site operators for electrical faults and serviced as required for each specific type of equipment or plant

4.10 SMOKING POLICY

4.10.1 The Site operates a strict no smoking policy.

4.11 HOT WORKS

4.11.1 There will be no hot work activities carried out on the Site

4.12 INDUSTRIAL HEATERS

4.12.1 Industrial heaters will **not** be installed within the waste transfer station building.

4.13 FIRE WATCH

- 4.13.1 At the beginning and end of each working shift a Fire Watch will be carried out by suitably trained staff. In addition to CCTV, visual inspections and temperature monitoring by way of a hand held thermal monitor to detect any evidence of fire, smoke, leakages, spillages or hot spots will be carried out. Results will be recorded on the housekeeping and inspection log and assessed to see if any improved operational procedures can be invoked to reduce risks. Fire watch reviews will also be undertaken out of hours to check for post operational heating issues and procedures will be reviewed after assessment.
- 4.13.2 All waste storage areas on Site are subject to the Fire Watch checks. Inspections also check for dust build up or fluff settled onto hot exhausts and engines of the fork-lifts, machinery and plant.

5 MANAGEMENT AND STORAGE OF WASTE

5.1 WASTE ACCEPTANCE PROCEDURES

- 5.1.1 All vehicles delivering wastes to the Site will stop at the weighbridge to be weighed. Weighbridge staff will be suitably trained and follow documented procedures. The weighbridge operator examines waste descriptions at the weighbridge and the information is checked against the six figure European Waste Catalogue Code(s) and other details on the Waste Transfer Note or Consignment Note as well as against the waste types permitted by the Environmental Permit.
- 5.1.2 A banksman will instruct waste delivery drivers to the appropriate part of the Site for off-loading, according to the type of waste being delivered, to ensure hazardous and non-hazardous wastes are stored and processed separately. This helps to ensure the cleanliness of recyclable materials is maintained and materials are correctly stored and handled.
- 5.1.3 Off-loading of wastes will be carried out by on-Site fork-lift trucks which will transfer the deliveries into the reception bay within the building where they are sorted and separated. The fork-lifts also transport wastes within the building to the appropriate bay according to waste type.
- 5.1.4 A visual inspection of the contents of all waste loads, including those received in enclosed containers, are made during deposit.
- 5.1.5 Any discrepancies found as a result of the checks detailed above results in the vehicle being detained whilst some, or all, of the following supplementary management decisions will be taken:
 - Referral to a Technically Competent Person (TCP) on site;
 - Referral to the waste producer to confirm the nature of the waste load;
 - Referral to the waste carrier's base;
 - Referral to the Environment Agency;
 - Redirection of delivery vehicle off Site, to a suitably authorised facility; and
 - If the waste has been discharged on the floor of the building or external storage area, removal of the waste to the secure quarantine area, prior to off-Site removal either to the waste producer or suitably authorised facility.
- 5.1.6 Hot loads are not accepted at the Site, however, in the unlikely event that any wastes are discovered to be a hot load or have the potential to be a hot load, they will be removed from the Site as a matter of urgency, or temporarily stored in the designated quarantine area.
- 5.1.1 Designated quarantine procedures ensure that such wastes will be kept segregated from other wastes which are or are likely to be incompatible. Quarantined wastes (including any inadvertently received powdery or excessively dusty wastes) will removed from the Site as a priority incident and within 24 hours, subject to an authorised facility being able to accept them within this timescale. If appropriate and dependant on the nature of the material, wastes will be dampened down using a hose prior to being transferred to quarantine or handling in any way so that dust emissions during

handling are minimised.

5.1.2 Wastes will not be accepted if for any reason there is insufficient storage capacity available or if the Site is inadequately manned. This is to ensure that all waste is managed effectively to prevent pollution or loss of amenity.

5.2 IDENTIFICATION OF POTENTIAL SOURCES OF FIRE

- 5.2.1 In constructing robust risk-based management protocols for the Site, it is recognised that there are a number of potential sources of fire associated with the waste transfer station from:
 - Container defects and/or deterioration,
 - Vehicles and plant delivering and processing wastes to/at the facility; and
 - Waste storage, bulking up, storage and dispatch;
- 5.2.2 These matters are addressed further in the relevant sections below.

5.3 WASTE FEEDSTOCK INVENTORY AND SOURCE MATERIALS

5.3.1 With due regard to the potential for waste feedstock material to be an inherent fire risk, key waste streams received at the facility are detailed in Appendix 1. Assessment of the associated fire potential under 'normal' operational conditions is provided.

6 CONTROL MEASURES

6.1 WASTE TRANSFER BUILDING AND WASTE BAYS

- 6.1.1 The waste transfer building comprises one reception bay identified for material sorting and separation and three further bays for the storage of permitted wastes. The maximum typical storage is one month and a maximum of three months. For mixed material brought to the Site there is the capability for up to ten tonnes/day to be processed with up to ten tonnes/day to be disposed as waste at an appropriate authorised site.
- 6.1.2 The waste bays are separated by concrete fireproof 2.4m walls to three sides (the back and two side walls) Fireproof bay construction and height will meet the requirements of The Health and Safety Executive (HSE) HSG71 Chemical Warehousing: The storage of packaged dangerous substances (Fourth Edition, 2009) and Storage of flammable liquids in containers (Third Edition, 2015). They are impervious to liquids and capable of withstanding an intense fire on one side without collapse. To offer additional strength to the rear of the bays, a mild steel (MS) plate will be installed along the width of the back bay walls.
- 6.1.3 For thoroughness, the bay walls will also meet the specifications set out in the Environment Agency guidance on Fire Prevention Plans: environmental permits: <u>Fire prevention plans: environmental permits GOV.UK (www.gov.uk)</u> to ensure a fire resistance period of at least two hours so that any fire is suitably isolated from another waste storage area.

- 6.1.4 Forklift trucks transfer the wastes to the appropriate bay within the building according to waste types. Mixed wastes are deposited in the reception bay prior to separation and sorting.
- 6.1.5 Waste loads are placed into appropriate bay and bulked up within the confines of the bay wall using a mobile pallet truck or forklift truck as appropriate by a suitably trained Site operative. Mixed wastes are stored in the reception bay prior to sorting and separation into different components for storage and recovery and up to a maximum of ten tonnes/day of residual waste for disposal at an appropriately authorised site. All waste deposit, separation, bulking up, storage and loading for off-Site removal or transfer takes place within the building.
- 6.1.6 There are four bays within the waste transfer building which have a 100mm bund along the entrance to allow for the containment of any leaks or spillages. In order to prevent the mixing of incompatible liquids, individual drainage channels extend from each bay and are directed to the external subsurface sump.
- 6.1.7 Waste materials are stacked on top of 1 x 1.2m pallets in the bays which in turn are stacked onto the impermeable concreted floor. Waste stacks and bay dimensions are detailed below in Table 1.

Stockpile ID	Maximum Waste Stack Dimensions (L x W x H)	Volume of Waste (m³)	Bay/Storage Area Dimensions
Bay 1. Non-Hazardous	5m x 3.2m x 2.3m	2.665	8m x 4m x 2.4m
Bay 2. Non-Flammable	5m x 3.2m x 2.3m	2.665	8m x 4m x 2.4m
Hazardous			
Bay 3. Reception Bay	5.5m x 2.5m x 2.3m	1.975	5.5m x 5m x 2.4m
Bay 4. Flammable	2.5m x 1.2m x 2.3m	1.370	5.5m x 2.5m x 2.4m
Hazardous			

Table 1 Waste Stack and Storage Bay Dimensions

6.1.8 Given that the stack sizes are between 1 and 100m3, the fire walls allow for the horizontal distance from flammable storage areas around the wall to the adjacent stockpile is 4m as specified in HSE 51 and 71.

6.2 VENTILATION OF THE WASTE TRANSFER BUILDING

- 6.2.1 In order to prevent the accumulation of flammable vapours that may arise from leaks or releases from the stored materials, ventilation of the waste transfer building will be achieved via a natural system. To facilitate cross-flow ventilation induced by wind forces and air circulation by thermal currents, permanent airbricks will be installed at high and low levels in the front and back external walls of the building.
- As the building is located in an open, unsheltered environment, the airbricks will have a total free area equivalent of at least 1% of the total area of the walls. Inspections will be made during the daily routine site checks to ensure that these vents are free from any obstructions and blockages.

6.3 DESIGN AND CONSTRUCTION OF CONTAINERS

- 6.3.1 The majority of waste materials will be stored in IBC's and metal drums that will be stacked no more than two high. There will be a separation distance from the stacks/stockpiles to the bay walls of 500mm to enable the inspection of all surfaces of the containers for any defects or deterioration that may result in the release of the contents.
- 6.3.2 Wastes will only be stored in containers constructed from material that is compatible with the physical and chemical properties of the contents. The openings of the containers will be secured with a precise corresponding lid or cap to prevent the escape of flammable vapours or liquids.
- 6.3.3 Individual containers will be clearly marked to indicate their contents and the degree of flammability. Flammable liquids arriving on site will be marked in accordance with the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG) and to a lesser extent the Classification, Labelling and Packaging (CLP) Regulation.

6.4 LEAKS AND SPILLAGES

- 6.4.1 The design of the waste transfer building takes into consideration the need to prevent the spread of any leaks or spillages beyond the confines of the waste bays. A 100mm bund will be constructed along the entrance of each bay as well as along the entry and exit point to the building. Additionally, the fireproof bay walls and the base of the bays are constructed of concrete that is impervious to fluids and the floor of each bay gradates in a downward dip from the front to the back in order to facilitate further in the containment of any spillages.
- 6.4.2 In accordance with the HSG71 and 51, each bay has the capacity to contain a volume of at least 110% of the capacity of the largest container. For thoroughness, the storage bays are designed as such so that they have the capacity to contain 110% of the entire contents stored within them i.e. bays 1 and 2 have the capacity to hold a volume of 3.2m³ (110% of the contents stored is 2.86m³); bay 3 can contain a volume of 2.75m³ (the volume of waste stored is 2.2m³) and bay 4 has the capacity to contain of 1.375m³ when the volume of the contents stored is 1.54m³. Note that although bay 4 does not have the potential to contain 110% of the entire contents, it does meet the requirements above insofar as it has the capacity to contain 110% of the volume of the largest container i.e a 1m³ IBC).
- 6.4.3 Externally, the yard is bunded by a 100mm kerb that encompasses the entire Site with the exception of the entrance which will have a sloped bund, also 100mm high. Not only will this serve as an area for firewater containment but it also ensures fugitive liquors are prevented from escaping the confines of the Site.

7 FIRE DETECTION AND FIRE FIGHTING

7.1 FIRE DETECTION

7.1.1 Combustible materials stored on Site are monitored by a hand held thermal temperature monitor. Heat detection by this means monitors the temperature through each individual container rather than a temperature probe which detects at point source locations.

- 7.1.2 Any evidence of a hot spot triggers an assessment of the most appropriate action which may be the separation of the stack to dissipate heat, the transferal of material to the quarantine area or the application of cooling water or powder depending on the properties of the waste material.
- 7.1.3 Firechief automatic powder fire extinguishers (model APS12) which has the coverage potential of 18m² will be positioned above each storage bay and staff are trained in their use. Kanex HQ Series automatic fire extinguishers will also be placed in strategic, easily accessible locations around the internal and external areas of the Site. Records of training testing and maintenance of fire extinguishers are kept in the Site's office. Fire extinguishers meet the requirements of BS 5036.
- 7.1.4 Extensive CCTV coverage will be installed around the Site in such a way that there will be no blind spots. This will allow for the detection of any fire and smoke in addition to serving as security for the facility.

8 PROVISION AND MANAGEMENT OF FIREWATER

- 8.1.1 With the maximum stack size of 2.665m³ based on the design capacity of twenty-four 1 x 1.2m pallets double stacked in bay`s 1 and 2 and applying the Environmental Agency`s Guidance rate of 2m³ /min water for a minimum of 3hrs for a 2.665m³ stack of waste would require 3.192m³ of water.
- 8.1.2 In the event of a fire incident, the provision of the on-Site fire extinguishers and a hose pipe connected to the main water supply hose will be supplemented by a fire hydrant located directly at the entrance to the Site. It is important to note that the Fire Service are no longer permitted to test the flow rates of fire hydrants due to the discolouration it causes and the potential to taint water supplies. As such, the exact details regarding the flow rate of the hydrant is unavailable although typically, the average flow rate of fire hydrants in the UK is 8 litres/sec equating to 28.8m³/hour or 86.4m³ over the course of 3 hours which is sufficient for the largest waste stack on-Site.
- 8.1.3 The flow rate of the hose is 15 litres per minute which could provide 0.9m³/hour of water. Although this is approximately half the flow rate as stated in the guidance, this is considered sufficient for Site personnel to commence fire-fighting, if safe to do so, prior to the arrival of the Fire Service.
- 8.1.4 Additionally, water can be sourced from the old Drain brook adjacent to the Site and the Humber Estuary c.220m to the south.
- 8.1.5 The external yard area will be covered by a canopy to enable the Site to be fully contained. As such rainwater will be diverted away from the Site and there will be no surface run-off. To assist in the containment of fire water, a 100mm bund encompasses the entire perimeter of the Site. Firewater would then be potentially available for reuse by the fire service or would be removed by tanker and transferred to an appropriately licensed wastewater treatment facility. Note that there are no surface drains on the Site.
- 8.1.6 In the event that storage of firefighting water was required on Site, the impermeable bunded external yard area creates a storage area of 27m x 15.51m x min 0.1m depth giving a capacity to retain up to 41.87m³ which is in excess of the amount required to extinguish the worst-case fire, that being a 2.665m³ waste stack requiring 3.192m³ of fire water. This could be stored for further firefighting or for appropriate controlled removal from the Site.

9 FIRE INCIDENT PROCEDURE-EMERGENCY PLAN

- 9.1.1 Emergency procedures for the Site has been developed and is the subject of training and exercising for all staff engaged at the Site. The Plan sets out the following key points:
 - Fire actions and reporting procedures;
 - Emergency Procedures including communication and evacuation;
 - Identification of off-Site fire assembly point;
 - Circumstances under which trained staff may be involved in actions to separate affected waste;
 - Any deliveries to the Site will be cancelled;
 - Recovery including appropriate removal of burned waste to an authorised facility and the tankering of any residual firewater by a licensed waste transfer operator to an appropriately permitted wastewater treatment facility;
 - Should the plant and machinery on-Site prove to be insufficient for the removal of burnt waste, additional plant will be sourced from nearby industrial premisises;
 - A copy of the Fire Emergency Plan is retained at the Site office.
- 9.1.2 Key actions to be undertaken in the event of discovering a fire are detailed in Table 3 below.

Table 2 Key Actions on discovering a fire

Box 1 - Action on discovering a fire

- Fire service to be informed immediately of the location of the fire and the waste types involved;
- All personnel must follow Emergency Fire Plan;
- Neighbouring businesses and residents will be informed via telephone (note that there is a contact list held in the Site office that is updated regularly);
- Fire extinguishers and water hoses must only be used by trained fire marshals and when it is safe and appropriate to do so;
- Once the Site is cleared of burnt material and firewater (see bullet point 6 above in section 8.1.1), the yard area will be washed down before replacing or repairing damaged equipment and/or infrastructure as necessary.
- Electrical checks and the re-evaluation of contingency plans will also be carried out prior to the Site becoming operational again.

APPENDIX 1 WASTE FEEDSTOCK INVENTORY AND SOURCE MATERIALS

EWC Code	Description	
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING	
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing	
02 01 08*	agrochemical waste containing dangerous substances	
02 01 09	agrochemical waste other than those mentioned in 02 01 08	
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD	
03 02	wastes from wood preservation	
03 02 01*	non-halogenated organic wood preservatives	
03 02 02*	organochlorinated wood preservatives	
03 02 03*	organometallic wood preservatives	
03 02 04*	inorganic wood preservatives	
03 02 05*	other wood preservatives containing dangerous substances	
06	WASTES FROM INORGANIC CHEMICAL PROCESSES	
06 01	wastes from the manufacture, formulation, supply and use (MFSU) of acids	
06 01 01*	sulphuric acid and sulphurous acid	
06 01 02*	hydrochloric acid	
06 01 03*	hydrofluoric acid	
06 01 04*	phosphoric and phosphorous acid	
06 01 05*	nitric acid and nitrous acid	
06 01 06*	other acids	
06 02	wastes from the MFSU of bases	
06 02 01*	calcium hydroxide	
06 02 03*	ammonium hydroxide	
06 02 04*	sodium and potassium hydroxide	
06 02 05*	other bases	
06 13	wastes from inorganic chemical processes not otherwise specified	
06 13 01*	inorganic plant protection products, wood-preserving agents and other biocides.	
06 13 02*	spent activated carbon (except 06 07 02)	
06 13 03	carbon black	
06 13 04*	wastes from asbestos processing	
06 13 05*	soot	
07	WASTES FROM ORGANIC CHEMICAL PROCESSES	
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals	

EWC Code	Description	
07 01 01*	aqueous washing liquids and mother liquors	
07 01 03*	organic halogenated solvents, washing liquids and mother liquors	
07 01 04*	other organic solvents, washing liquids and mother liquors	
07 01 07*	halogenated still bottoms and reaction residues	
07 01 08*	other still bottoms and reaction residues	
07 01 09*	halogenated filter cakes and spent absorbents	
07 01 10*	other filter cakes and spent absorbents	
07 01 11*	sludges from on-site effluent treatment containing dangerous substances	
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11	
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres	
07 02 01*	aqueous washing liquids and mother liquors	
07 02 03*	organic halogenated solvents, washing liquids and mother liquors	
07 02 04*	other organic solvents, washing liquids and mother liquors	
07 02 07*	halogenated still bottoms and reaction residues	
07 02 08*	other still bottoms and reaction residues	
07 02 09*	halogenated filter cakes and spent absorbents	
07 02 10*	other filter cakes and spent absorbents	
07 02 11*	sludges from on-site effluent treatment containing dangerous substances	
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11	
07 02 13	waste plastic	
07 02 14*	wastes from additives containing dangerous substances	
07 02 15	wastes from additives other than those mentioned in 07 02 14	
07 02 16	wastes containing silicones	
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)	
07 03 01*	aqueous washing liquids and mother liquors	
07 03 03*	organic halogenated solvents, washing liquids and mother liquors	
07 03 04*	other organic solvents, washing liquids and mother liquors	
07 03 07*	halogenated still bottoms and reaction residues	
07 03 08*	other still bottoms and reaction residues	
07 03 09*	halogenated filter cakes and spent absorbents	
07 03 10*	other filter cakes and spent absorbents	
07 03 11*	sludges from on-site effluent treatment containing dangerous substances	
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11	
07 04	wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides	

EWC Code	Description	
07 04 01*	aqueous washing liquids and mother liquors	
07 04 03*	organic halogenated solvents, washing liquids and mother liquors	
07 04 04*	other organic solvents, washing liquids and mother liquors	
07 04 07*	halogenated still bottoms and reaction residues	
07 04 08*	other still bottoms and reaction residues	
07 04 09*	halogenated filter cakes and spent absorbents	
07 04 10*	other filter cakes and spent absorbents	
07 04 11*	sludges from on-site effluent treatment containing dangerous substances	
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11	
07 04 13*	solid wastes containing dangerous substances	
07 05	wastes from the MFSU of pharmaceuticals	
07 05 01*	aqueous washing liquids and mother liquors	
07 05 03*	organic halogenated solvents, washing liquids and mother liquors	
07 05 04*	other organic solvents, washing liquids and mother liquors	
07 05 07*	halogenated still bottoms and reaction residues	
07 05 08*	other still bottoms and reaction residues	
07 05 09*	halogenated filter cakes and spent absorbents	
07 05 10*	other filter cakes and spent absorbents	
07 05 11*	sludges from on-site effluent treatment containing dangerous substances	
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11	
07 05 13*	solid wastes containing dangerous substances	
07 05 14	solid wastes other than those mentioned in 07 05 13	
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics	
07 06 01*	aqueous washing liquids and mother liquors	
07 06 03*	organic halogenated solvents, washing liquids and mother liquors	
07 06 04*	other organic solvents, washing liquids and mother liquors	
07 06 07*	halogenated still bottoms and reaction residues	
07 06 08*	other still bottoms and reaction residues	
07 06 09*	halogenated filter cakes and spent absorbents	
07 06 10*	other filter cakes and spent absorbents	
07 06 11*	sludges from on-site effluent treatment containing dangerous substances	
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11	
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified	
07 07 01*	aqueous washing liquids and mother liquors	

EWC Code	Description	
07 07 04*	other organic solvents, washing liquids and mother liquors	
07 07 07*	halogenated still bottoms and reaction residues	
07 07 08*	other still bottoms and reaction residues	
07 07 09*	halogenated filter cakes and spent absorbents	
07 07 10*	other filter cakes and spent absorbents	
07 07 11*	sludges from on-site effluent treatment containing dangerous substances	
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11	
08	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS	
08 01	wastes from MFSU and removal of paint and varnish	
08 01 11*	waste paint and varnish containing organic solvents or other dangerous substances	
08 01 12	waste paint and varnish other than those mentioned in 08 01 11	
08 01 13*	sludges from paint or varnish containing organic solvents or other dangerous substances	
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13	
08 01 15*	aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances	
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15	
08 01 17*	wastes from paint or varnish removal containing organic solvents or other dangerous substances	
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17	
08 01 19*	aqueous suspensions containing paint or varnish containing organic solvents or other dangerous substances	
08 01 20	aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19	
08 01 21*	waste paint or varnish remover	
08 02	wastes from MFSU of other coatings (including ceramic materials)	
08 02 01	waste coating powders	
08 02 02	aqueous sludges containing ceramic materials	
08 02 03	aqueous suspensions containing ceramic materials	
08 03	wastes from MFSU of printing inks	
08 03 07	aqueous sludges containing ink	
08 03 08	aqueous liquid waste containing ink	
08 03 12*	waste ink containing dangerous substances	
08 03 13	waste ink other than those mentioned in 08 03 12	
08 03 14*	ink sludges containing dangerous substances	
08 03 15	ink sludges other than those mentioned in 08 03 14	
08 03 16*	waste etching solutions	

EWC Code	Description	
08 03 17*	waste printing toner containing dangerous substances	
08 03 18	waste printing toner other than those mentioned in 08 03 17	
08 03 19*	disperse oil	
08 04	wastes from MFSU of adhesives and sealants (including waterproofing products)	
08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances	
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09	
08 04 11*	adhesive and sealant sludges containing organic solvents or other dangerous substances	
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11	
08 04 13*	aqueous sludges containing adhesives or sealants containing organic solvents or other dangerous substances	
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13	
08 04 15*	aqueous liquid waste containing adhesives or sealants containing organic solvents or other dangerous substances	
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15	
08 04 17*	rosin oil	
08 04 99	wastes not otherwise specified	
08 05 01*	waste isocyanates	
09	WASTES FROM THE PHOTOGRAPHIC INDUSTRY	
09 01	wastes from the photographic industry	
09 01 01*	water-based developer and activator solutions	
09 01 02*	water-based offset plate developer solutions	
09 01 03*	solvent-based developer solutions	
09 01 04*	fixer solutions	
09 01 05*	bleach solutions and bleach fixer solutions	
09 01 06*	wastes containing silver from on-site treatment of photographic wastes	
09 01 07	photographic film and paper containing silver or silver compounds	
09 01 08	photographic film and paper free of silver or silver compounds	
09 01 10	single-use cameras without batteries	
09 01 11*	single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03	
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11	
09 01 13*	aqueous liquid waste from on-site reclamation of silver other than those mentioned in 09 01 06	
11	WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY	

EWC Code	Description	
11 01	wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)	
11 01 05*	pickling acids	
11 01 06*	acids not otherwise specified	
11 01 07*	pickling bases	
11 01 08*	phosphatising sludges	
11 01 09*	sludges and filter cakes containing dangerous substances	
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09	
11 01 11*	aqueous rinsing liquids containing dangerous substances	
11 01 12	aqueous rinsing liquids other than those mentioned in 11 01 11	
11 01 13*	degreasing wastes containing dangerous substances	
11 01 14	degreasing wastes other than those mentioned in 11 01 13	
11 01 15*	eluate and sludges from membrane systems or ion exchange systems containing dangerous substances	
11 01 16*	saturated or spent ion exchange resins	
11 01 98*	other wastes containing dangerous substances	
11 02	wastes from non-ferrous hydrometallurgical processes	
11 02 02*	sludges from zinc hydrometallurgy (including jarosite, goethite)	
11 02 03	wastes from the production of anodes for aqueous electrolytical processes	
11 02 05*	wastes from copper hydrometallurgical processes containing dangerous substances	
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05	
11 02 07*	other wastes containing dangerous substances	
11 03	sludges and solids from tempering processes	
11 03 01*	wastes containing cyanide	
11 03 02*	other wastes	
11 05	wastes from hot galvanising processes	
11 05 01	hard zinc	
11 05 02	zinc ash	
11 05 03*	solid wastes from gas treatment	
11 05 04*	spent flux	
12	WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS	
12 01	wastes from shaping and physical and mechanical surface treatment of metals and plastics	
12 01 06*	mineral-based machining oils containing halogens (except emulsions and solutions)	
12 01 07*	mineral-based machining oils free of halogens (except emulsions and solutions)	

EWC Code	Description	
12 01 08*	machining emulsions and solutions containing halogens	
12 01 09*	machining emulsions and solutions free of halogens	
12 01 10*	synthetic machining oils	
12 01 12*	spent waxes and fats	
12 01 14*	machining sludges containing dangerous substances	
12 01 15	machining sludges other than those mentioned in 12 01 14	
12 01 16*	waste blasting material containing dangerous substances	
12 01 17	waste blasting material other than those mentioned in 12 01 16	
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil	
12 01 19*	readily biodegradable machining oil	
12 01 20*	spent grinding bodies and grinding materials containing dangerous substances	
12 03	wastes from water and steam degreasing processes (except 11)	
12 03 01*	aqueous washing liquids	
12 03 02*	steam degreasing wastes	
13	OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19)	
13 01	waste hydraulic oils	
13 01 01*	hydraulic oils, containing PCBs (1)	
13 01 04*	chlorinated emulsions	
13 01 05*	non-chlorinated emulsions	
13 01 09*	mineral-based chlorinated hydraulic oils	
13 01 10*	mineral based non-chlorinated hydraulic oils	
13 01 11*	synthetic hydraulic oils	
13 01 12*	readily biodegradable hydraulic oils	
13 01 13*	other hydraulic oils	
13 02	waste engine, gear and lubricating oils	
13 02 04*	mineral-based chlorinated engine, gear and lubricating oils	
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils	
13 02 06*	synthetic engine, gear and lubricating oils	
13 02 07*	readily biodegradable engine, gear and lubricating oils	
13 02 08*	other engine, gear and lubricating oils	
13 03	waste insulating and heat transmission oils	
13 03 01*	insulating or heat transmission oils containing PCBs	
13 03 06*	mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01	
13 03 07*	mineral-based non-chlorinated insulating and heat transmission oils	

EWC Code	Description
13 03 08*	synthetic insulating and heat transmission oils
13 03 09*	readily biodegradable insulating and heat transmission oils
13 03 10*	other insulating and heat transmission oils
13 07	wastes of liquid fuels
13 07 01*	fuel oil and diesel
13 07 02*	petrol
13 07 03*	other fuels (including mixtures)
13 08	oil wastes not otherwise specified
13 08 01*	desalter sludges or emulsions
13 08 02*	other emulsions
14	WASTE ORGANIC SOLVENTS, REFRIGERANTS AND PROPELLANTS (except 07 and 08)
14 06	waste organic solvents, refrigerants and foam/aerosol propellants
14 06 01*	chlorofluorocarbons, HCFC, HFC
14 06 02*	other halogenated solvents and solvent mixtures
14 06 03*	other solvents and solvent mixtures
14 06 04*	sludges or solid wastes containing halogenated solvents
14 06 05*	sludges or solid wastes containing other solvents
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
15 01 09	textile packaging
15 01 10*	packaging containing residues of or contaminated by dangerous substances
15 01 11*	metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02

EWC Code	Description
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 07*	oil filters
16 01 08*	components containing mercury
16 01 14*	antifreeze fluids containing dangerous substances
16 01 15	antifreeze fluids other than those mentioned in 16 01 14
16 01 16	tanks for liquefied gas
16 01 17	ferrous metal
16 01 18	non-ferrous metal
16 01 19	plastic
16 01 20	glass
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 01 22	components not otherwise specified
16 02	wastes from electrical and electronic equipment
16 02 09*	transformers and capacitors containing PCBs
16 02 10*	discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09
16 02 11*	discarded equipment containing chlorofluorocarbons, HCFC, HFC
16 02 12*	discarded equipment containing free asbestos
16 02 13*	discarded equipment containing hazardous components (2) other than those mentioned in 16 02 09 to 16 02 12
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 15*	hazardous components removed from discarded equipment
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
16 03	off-specification batches and unused products
16 03 03*	inorganic wastes containing dangerous substances
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 05*	organic wastes containing dangerous substances
16 03 06	organic wastes other than those mentioned in 16 03 05
16 05	gases in pressure containers and discarded chemicals
16 05 04*	gases in pressure containers (including halons) containing dangerous substances
16 05 05	gases in pressure containers other than those mentioned in 16 05 04
16 05 06*	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals

EWC Code	Description
16 05 07*	discarded inorganic chemicals consisting of or containing dangerous substances
16 05 08*	discarded organic chemicals consisting of or containing dangerous substances
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
16 06	batteries and accumulators
16 06 01*	lead batteries
16 06 02*	Ni-Cd batteries
16 06 03*	mercury-containing batteries
16 06 04	alkaline batteries (except 16 06 03)
16 06 05	other batteries and accumulators
16 06 06*	separately collected electrolyte from batteries and accumulators
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 08*	wastes containing oil
16 07 09*	wastes containing other dangerous substances
16 08	spent catalysts
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 02*	spent catalysts containing dangerous transition metals (3) or dangerous transition metal compounds
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
16 08 04	spent fluid catalytic cracking catalysts (except 16 08 07)
16 08 05*	spent catalysts containing phosphoric acid
16 08 06*	spent liquids used as catalysts
16 08 07*	spent catalysts contaminated with dangerous substances
16 10	aqueous liquid wastes destined for off-site treatment
16 10 01*	aqueous liquid wastes containing dangerous substances
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01
16 10 03*	aqueous concentrates containing dangerous substances
16 10 04	aqueous concentrates other than those mentioned in 16 10 03
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
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EWC Code	Description
17 02	wood, glass and plastic
17 02 01	wood
17 02 02	glass
17 02 03	plastic
17 02 04*	glass, plastic and wood containing or contaminated with dangerous substances
17 03	bituminous mixtures, coal tar and tarred products
17 03 01*	bituminous mixtures containing coal tar
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
17 03 03*	coal tar and tarred products
17 04	metals (including their alloys)
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 09*	metal waste contaminated with dangerous substances
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing dangerous substances
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 05*	dredging spoil containing dangerous substances
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 07*	track ballast containing dangerous substances
17 05 08	track ballast other than those mentioned in 17 05 07
17 06	insulation materials and asbestos-containing construction materials
17 06 01*	insulation materials containing asbestos
17 06 03*	other insulation materials consisting of or containing dangerous substances
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 06 05*	construction materials containing asbestos
17 08	gypsum-based construction material
17 08 01*	gypsum-based construction materials contaminated with dangerous substances
17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01
17 09	other construction and demolition wastes
17 09 01*	construction and demolition wastes containing mercury

EWC Code	Description
17 09 02*	construction and demolition wastes containing PCB (for example PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)
17 09 03*	other construction and demolition wastes (including mixed wastes) containing dangerous substances
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 01	wastes from incineration or pyrolysis of waste
19 01 02	ferrous materials removed from bottom ash
19 01 11*	bottom ash and slag containing dangerous substances
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 13*	fly ash containing dangerous substances
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 15*	boiler dust containing dangerous substances
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 17*	pyrolysis wastes containing dangerous substances
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 09*	solid combustible wastes containing dangerous substances
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 02 11*	other wastes containing dangerous substances
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 01	paper and cardboard
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
19 12 05	glass
19 12 06*	wood containing dangerous substances
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles

EWC Code	Description
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard
20 01 02	glass
20 01 10	clothes
20 01 11	textiles
20 01 13*	solvents
20 01 14*	acids
20 01 15*	alkalines
20 01 17*	photochemicals
20 01 19*	pesticides
20 01 21*	fluorescent tubes and other mercury-containing waste
20 01 23*	discarded equipment containing chlorofluorocarbons
20 01 25	edible oil and fat
20 01 26*	oil and fat other than those mentioned in 20 01 25
20 01 27*	paint, inks, adhesives and resins containing dangerous substances
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 29*	detergents containing dangerous substances
20 01 30	detergents other than those mentioned in 20 01 29
20 01 32	medicines other than those mentioned in 20 01 31
20 01 33*	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 37*	wood containing dangerous substances
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics

EWC Code	Description
20 01 40	metals

