

*Aylesbury Transfer Station*

*Corrib Industrial Estate*

*Griffin Lane*

*Buckinghamshire*

*HP19 8BP*

*Section 1 - Non-technical Summary*

*Section 2 – Technical Standard's*

*Produced February 2020*

*Variation 1 - September 2020*

*Variation 2 – 24<sup>th</sup> September 2020*

Produced by:

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## Section 1- Non-technical Summary

### 1. Introduction and Background

Ravenswood Environmental Services Limited has been retained by Hoban Waste Management Limited to prepare an environmental permit application to vary the existing waste management licence to reflect the aspirations of the company in respect of meeting the requirements of the waste hierarchy and improving recycling rates under the governance of a modern environmental permit.

In support of this permit application the following documentation is provided:

- Application forms, Parts A, C2, C3 and F1
- Directors details
- Environmental Management System (EMS) (includes H1 Risk Assessment)
- Fire Prevention Plan (FPP)
- Dust Management Plan (DMP)
- Odour Management Plan (OMP)
- COTC Certificate
- Site Condition Report (SCR)

#### Pre-application discussions

Several email conversations have taken place with the area representative of the Environment Agency (Holly Linham) to determine regulatory requirements in respect of the proposed changes to current waste treatment activities.

The existing environmental permit was issued 21/12/1998 after which a number of variations were issued: (28<sup>th</sup> September 1999, 9<sup>th</sup> December 2003, 7<sup>th</sup> November 2008 and finally transfer to the present holder on 17<sup>th</sup> September 2018.)

As part of this permit application it is the holders intention to consolidate these variations into one modern permit.

The application is deemed by the Environment Agency as a substantial variation and assigned reference EPR/GB3100CF/V002.

The existing waste management licence does not include EWC codes from the list of waste as a means of identifying individual waste streams, therefore the accompanying EMS includes EWC codes proposed for a non-hazardous waste facility and this permit application.

### 2. The Site

The application site is centred on SP 80554 14233 and is located within the Corrib Industrial Estate Aylesbury, which is itself located centrally within the town of Aylesbury. The immediate area is predominantly industrial and commercial premises and further afield residential properties and social amenities.

The site is accessed from Griffin Lane and forms part of the wider industrial estate. The facility incorporates a range of buildings designed to facilitate the acceptance, treatment and sorting of the various waste streams allowed under the site permit.

Searches on the Multi-Agency Geographic Information for the Countryside website (MAGIC) confirm that there are none of the following European or international sites located within 1km of the site.

- Special Protection Areas (SPA)
- Special Area of Conservation (SAC)
- RAMSAR
- Sites of Special Scientific Interest (SSSI)

The river Thames is located 1400 metres to the north west of the site (at its nearest point) and the Grand Union Canal is in excess of 1900 metres to the south east.

### **3. Proposed Changes to the Waste Management Licence**

Hoban Waste Management Limited took possession of the waste management licence for Aylesbury Transfer Station in September 2018 yet were not to operate the site until transfer of the lease from the previous incumbent took effect.

The existing waste management licence (WML86204) was issued by the Environment Agency pursuant to Part 11 of the Environmental Protection Act 1990, granting a waste management licence authorising the keeping and treatment of controlled waste on land specified on schedule 1.

The application to vary the existing permit incorporates a number of proposals, namely;

- Consolidation of the various variations to the original waste management licence
- Change the format to a modern environmental permit reflecting the operations at the site
- Include the provision of a floatation tank to separate heavy and light fraction wastes
- Enhance the status of the waste treatment facility to an installation that fully reflects the operations in effect at the site and future development opportunities.
- The operation will necessitate in excess of 50 tonnes for disposal in any one day and production of RDF greater than 75 tonnes in any one day.

The site will only accept wastes pursuant to those allowed under the existing permit, and now stated in EWC format contained in the accompanying Environmental Management System document.

There are no proposals to increase the annual tonnage from its present limit of: 304,380 tonnes per annum.

#### 4. Specified Waste Management Activities

<b>R13</b>	<b>Temporary storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on site where it is produced)</b>
<b>R3</b>	<b>Recycling/reclamation of organic substances which are not used as solvents (including composting &amp; other biological transformations processes)</b>
<b>R4</b>	<b>Recycling/reclamation of metals &amp; metal compounds</b>
<b>R5</b>	<b>Recycling/reclamation of other inorganic materials R5.1 Bulking/sorting (Transfer station/MRF; main output non-metallic inorganic materials)</b>
<b>D15</b>	<b>Temporary storage of waste pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)</b>
<b>D9</b>	<b>Physico-chemical treatment</b>

The proposed activities at the site may be briefly summarised as follows:

- Acceptance and storage of non-hazardous waste prior to treatment
- Screening, crushing, washing, shredding and sorting and baling of non-hazardous waste
- Reclamation of recyclates for further off-site treatment
- Separation tank using water as a medium to separate materials by density

#### 5. Management Systems

A number of management systems have been produced which will ensure that:

- The risks that the facility pose to the environment have been identified
- The measures that are required to minimise the risks are identified
- The activities are managed in accordance with the management systems
- Performance against the management systems are audited at regular intervals; and
- Compliance with the environmental permit is complied with

#### 6. Technical Standards

Key technical standards laid out in the following documents will govern the operation of the site:

- The Environmental Permitting (England and Wales) Regulations 2010 (as amended);
- Relevant Environment Agency Guidance documents e.g. How to Comply and Environmental Risk Assessment; and

The technical standards and measures that are necessary to ensure the site does not give rise to significant environmental impact, have been determined through the risk assessment process and are summarised below:

- Strict waste acceptance procedures are in effect to prevent the acceptance of non-conforming waste.
- All potentially polluting liquids will be stored in vessels with secondary containment;
- Measures will be taken to control emissions of noise by use of suitably silenced and maintained items of plant;
- Operations will only be undertaken during the hours authorised by the planning consent;

- Measures will be implemented to control fugitive emissions of dust through the use of water sprays;
- A comprehensive programme of operational monitoring will be implemented to include fugitive emissions, dust and litter;

## 7. Waste Treatment Activities

Acceptance on non-hazardous industrial commercial, construction and demolition wastes for treatment to recovery recyclates for onward processing and disposal.

The facility benefits from a computerised weighbridge (WB) which serves to meet the requirements of the Environmental Protection (Duty of Care) Regulations 1991 by ensuring the waste and accompanying documentation is compliant to the regulations and conditions of the site permit.

Waste types identified at the WB are sent to the waste acceptance building and tipped on the concrete pad for initial visual inspection before entering the materials recovery plant.

The plant is able to reduce the waste to manageable sizes (<300mm) prior to segregation into individual components in readiness for off-site processing or disposal.

The overriding objective of the waste treatment facility is recovery of recyclates for reuse and further processing.

Common recyclates such as, wood, metal, plastics, plasterboard and hardcore shall be exported to third party facilities for further processing.

Fines material has no further value within the waste hierarchy and is therefore deemed as end of waste and consequently sent to landfill for disposal.

Aggregate type material recovered from the wash plant is suitable for reuse as secondary drainage or topping of haul routes. The use for this type of material is generally dictated by the end user.

The waste recovered from the floatation processes that has no further value, such as small particles of wood, plastic, paper and film shall be sent for disposal to landfill.

RDF material recovered during the treatment process will be either baled or remain loose and sent to Energy from Waste plants for use as a fuel source. The quality of RDF very much depends on the end user requirement but in essence will be free of fines, metals, wood in order to meet the very basic standard.

It is anticipated that future development will require RDF material to meet a given standard to achieve the desired calorific value, and this will necessitate measuring / enhancing the c/f and removal of particulate impurities present in the material.

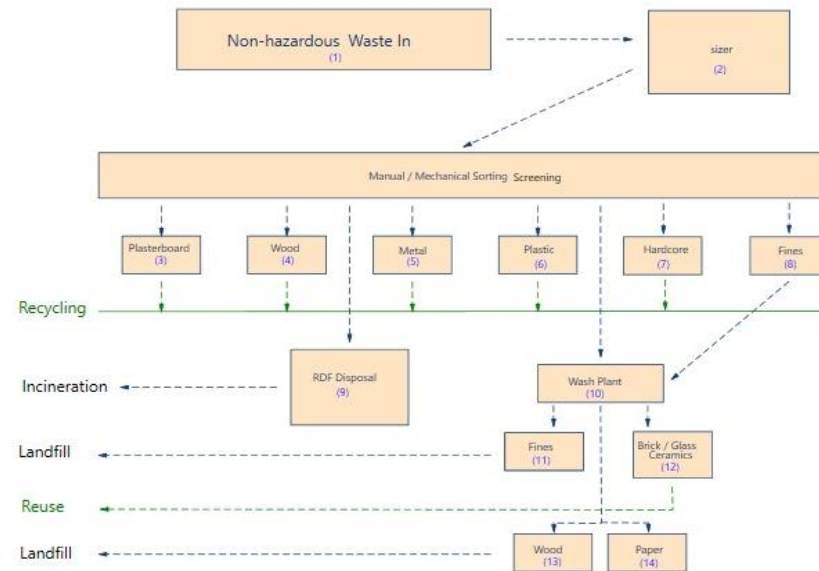
The waste treatment flow chart presented on the following page illustrates the various stages of processing and anticipated maximum daily tonnage of each recovered component.

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**Waste Treatment Flow Chart**

Waste Treatment Flow Chart Activity Reference

Activity	Activity Reference	Approximate Tonnes p/d
Non-hazardous waste in	(1)	980
Sizer	(2)	0
Plasterboard	(3)	24
Wood	(4)	144
Metal	(5)	48
Plastic	(6)	24
Hardcore	(7)	240
Fines	(8)	192
RDF	(9)	144
Wash Plant	(10)	0
Fines	(11)	48
stone, Glass, Ceramics	(12)	48
Wood	(13)	28
Paper / Plastic	(14)	40



## **8. Floatation Tank (Wash Plant)**

The single purpose of the floatation tank, often referred to as a wash plant, is to segregate by specific gravity residual waste that has passed through the main materials recover plant but retains a valuable percentage of recyclates.

In essence, heavy particles sink to the bottom of the plant and the lighter fraction floats at the surface. It is the lighter fraction that is deemed to have reached end of waste status and subsequently sent to landfill for disposal.

The plant is able to segregate the heavy elements into small aggregate type material generally consisting of, brick, stone, glass and ceramics. The very fine material collates at the base and removed to landfill for disposal, having no further value.

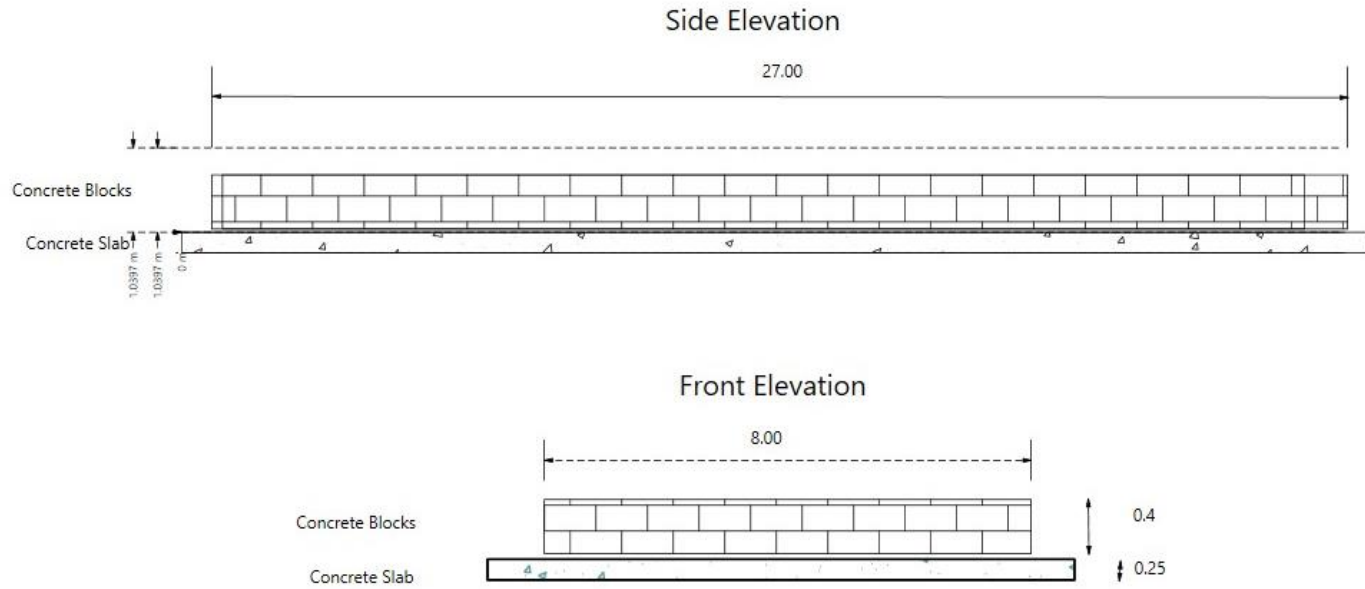
The operation of the floatation tank will be subject to a water discount application following installation of the plant and performance testing to establish the moisture content due to processing.

The plant will be excluded from the general site drainage arrangements which currently consist of an interceptor system combined with an impermeable surface. The plant shall be sited on an impermeable concrete base and surrounded by a raised (0.4m) concrete block wall, effectively providing secondary containment of the plant. The main body of water will be retained in the plant with only a small loss anticipated from daily use. The system incorporates a pump to recirculate water back into the plant from the containment base as the level reaches a given height. Any accumulation of silts within the base shall be removed as and when required and included within the fines residue from the main materials recovery facility.

The operation and maintenance of the floatation tank and associated structure will be inspected and monitored by the site supervisor and operations manager as part of their daily review.

The schematic on the following page illustrates the general containment details proposed for the floatation tank.

### Floatation Tank Containment Details





## Section 2 Technical Standards

### 1. Materials Recovery Equipment,

During the summer of 2020 Hoban Waste Management Ltd, hitherto referred to as the company, commissioned the design and installation of a materials recovery facility specific to the waste streams accepted pursuant to the parameters of the environment permit.

The full specification of the plant falls outside of the scope of this document and therefore a high level synopsis is given here.

The plant has been designed specifically to process the waste streams accepted at the site, namely;

Non-hazardous:

*Industrial commercial waste but excluding black bag waste.*

*Construction and demolition waste streams.*

The new system replaces extant methods of treatment that consisted primarily of diesel powered mobile processing equipment such as shredders and tromeels. Under optimum conditions the plant is designed treat 60 tonnes per hour of non-hazardous waste for further off-site processing and reuse. Essentially, it is able to identify and segregate various waste types through a combination of sizing, weight, magnetic influence and traditional hand sorting over a picking line.

From a combination of industrial commercial, construction demolition waste derives individual recyclates such as those illustrated on page 6, section 1 of this document which represents maximum (optimum) recoverable tonnage per day.

In essence, the new materials recovery equipment is intended to introduce a high degree of automation with negligible manual intervention yet returning high quality segregated materials for onward processing. It replaces the traditional waste processing equipment typically powered by diesel engines by wholly electrical driven motors.

In total, 33 electric motors are employed by the plant to power the various aspects of the recovery process. Their individual power requirements are not given here for fear of overburdening the reader, instead the total power requirement is presented below and expressed in KW/ph.

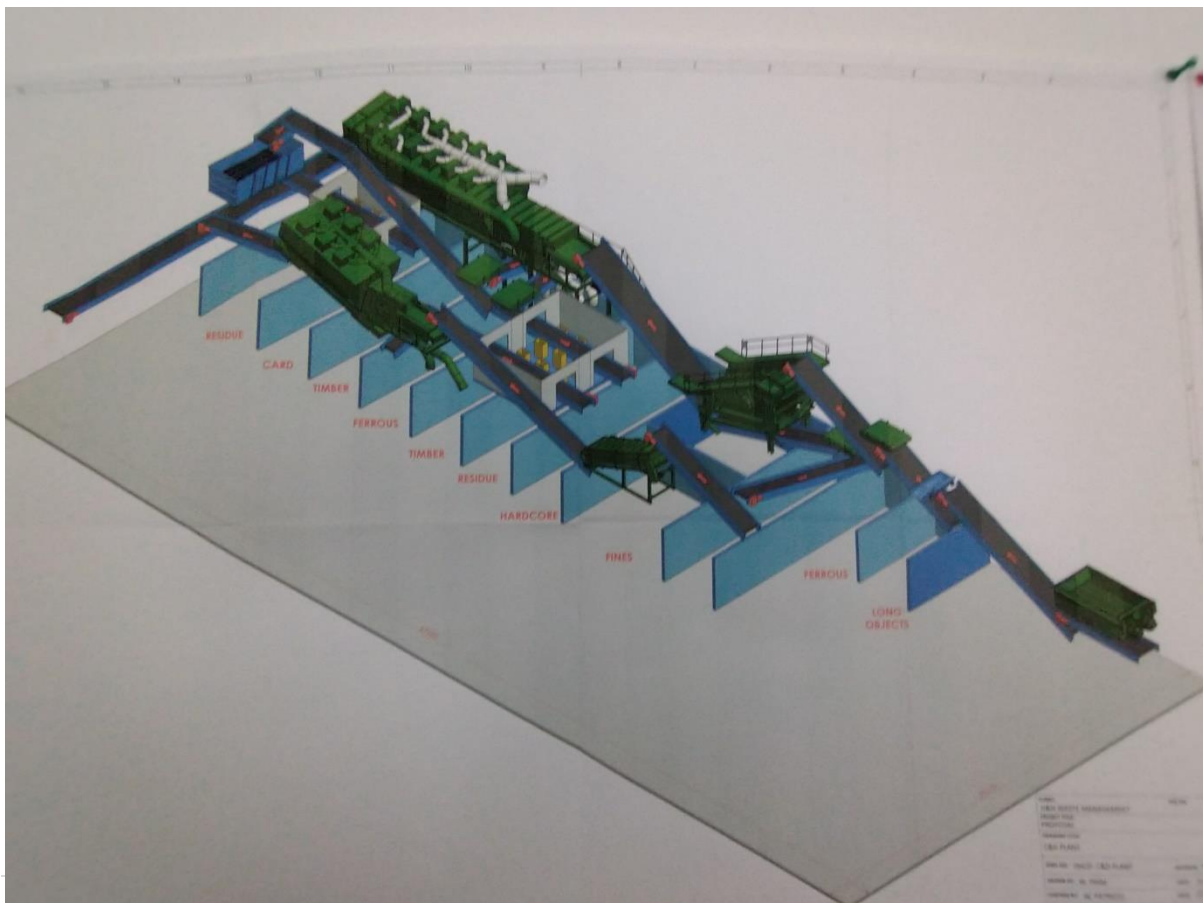
- Total KW of all motors                      424KW
- Maximum power required                    467KW
- Typical running @ 70% of max        327KW

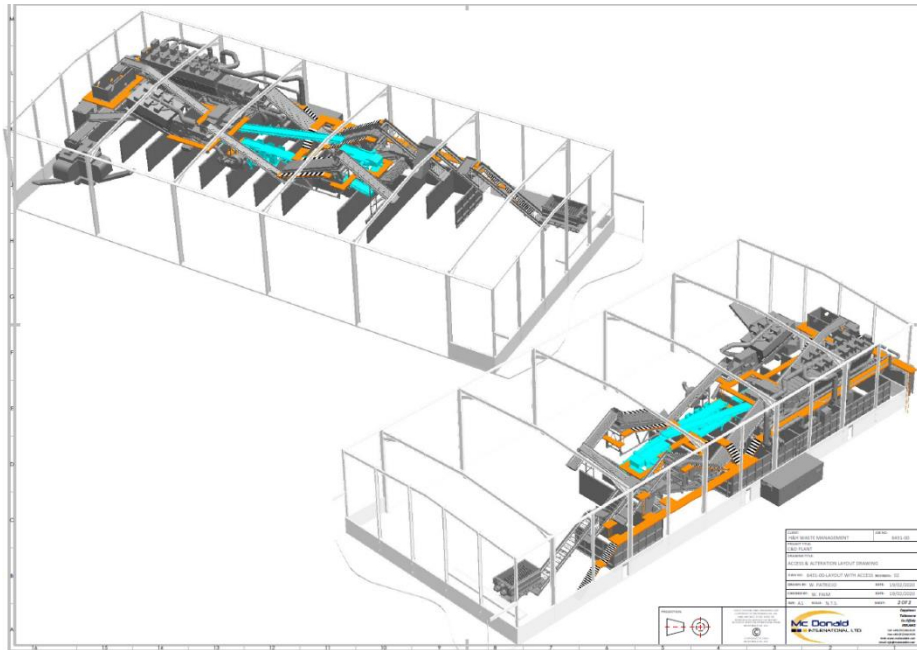
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**Waste storage capacity within the treatment plant and prior to entry.**

Material	Length (m)	Width (m)	Height (m)	Max Volume (m3)	Pile Quantity
Commercial & Industrial	11	10	4	300	1
SRF/RDF	6.1	2.4	2.4	30	1
Construction & demolition	6.1	2.4	2.4	30	1
Cardboard	6.1	2.4	2.4	30	1
Plastic	6.1	2.4	2.4	30	1
Metal	6.1	2.4	2.4	30	2
Wood	6.1	2.4	2.4	30	1

**Schematic layout of the materials recovery plant**





## 2. Supporting Mobile Plant,

Supplementary to the main processing plant are mobile waste handling equipment consisting of 3 large waste grabs, adapted from construction 360 degree excavators, and 2 wheeled loading shovels. Their primary function is to feed unprocessed waste to the materials recover plant, clear processed waste away from storage areas and load vehicles and containers for export from site.

Individual activities of the mobile plant are multifaceted; however, a brief synopsis is given below for each item of machinery.

- 1) 360 degree waste grab, primary function is to load the hopper feeding the materials recover plant
- 2) 360 degree waste grab, primary function is loading articulated bulk vehicles with recyclates or non-recyclable waste
- 3) 360 degree waste grab, retained as a stand by for the two main items of plant stated above in conjunction with general duties and augmentation of loading activities during periods of high traffic movement
- 4) Wheeled loading shovel, primary function is removing recovered materials from waste bays beneath the materials recovery plant ensuring the bays do not become overfull. Pushing unprocessed waste to within reach of the 360 waste grab feeding the plant
- 5) Wheeled loading shovel, performs backup duties to item 4 in conjunction with movement of materials around the site

During periods of unscheduled maintenance or breakdown of the materials recovery plant the mobile plant stated above would be utilised to perform transfer station duties, by ensuring any incoming waste deliveries are contained within the building and loading of articulated vehicles to relocate the unprocessed waste to third party facilities until the recovery plant is once again operational.

The 360-degree excavators have diesel powered 6-cylinder engines designed to meet the latest European Emission Standards. Other fuel types are not suitable due to the mobility of the plant and prolonged working duration.

The mobile plant employed at the site is invariably modern in design and able to meet Stage 4 emission standards for nonroad diesel engines, the technical specifications of which is given below.

Net power	Date	CO	HC	NOx	PM
kw		g/kwh	g/kwh	g/kwh	g/kwh
130 ≤ P ≤ 560	2014.01	3.5	0.19	0.4	0.025

The wheeled waste handling equipment used on site are:

- Caterpillar 26 tonnes materials handler 4-cylinder engine (3.4lt displacement) designed to meet US EPA Tier 4 final and EU stage 4 nonroad emissions standards
- Liebherr 24 tonnes materials handler fitted with a 115 kw (157hp) complies with Tier 4 interim / stage 111B emissions limit.
- Sennebogen materials handler is equipped with a 129kw diesel engine that meets the Tier 4f emissions specification

Electric-hybrid technology has yet to reach sufficient confidence within the waste industry to underwrite purchase of such equipment with some degree of confidence in the product.

Fuel consumption is dependent on productivity and load demand on the plant; however, enhancement of energy efficiency can be obtained by adopting the following procedures:

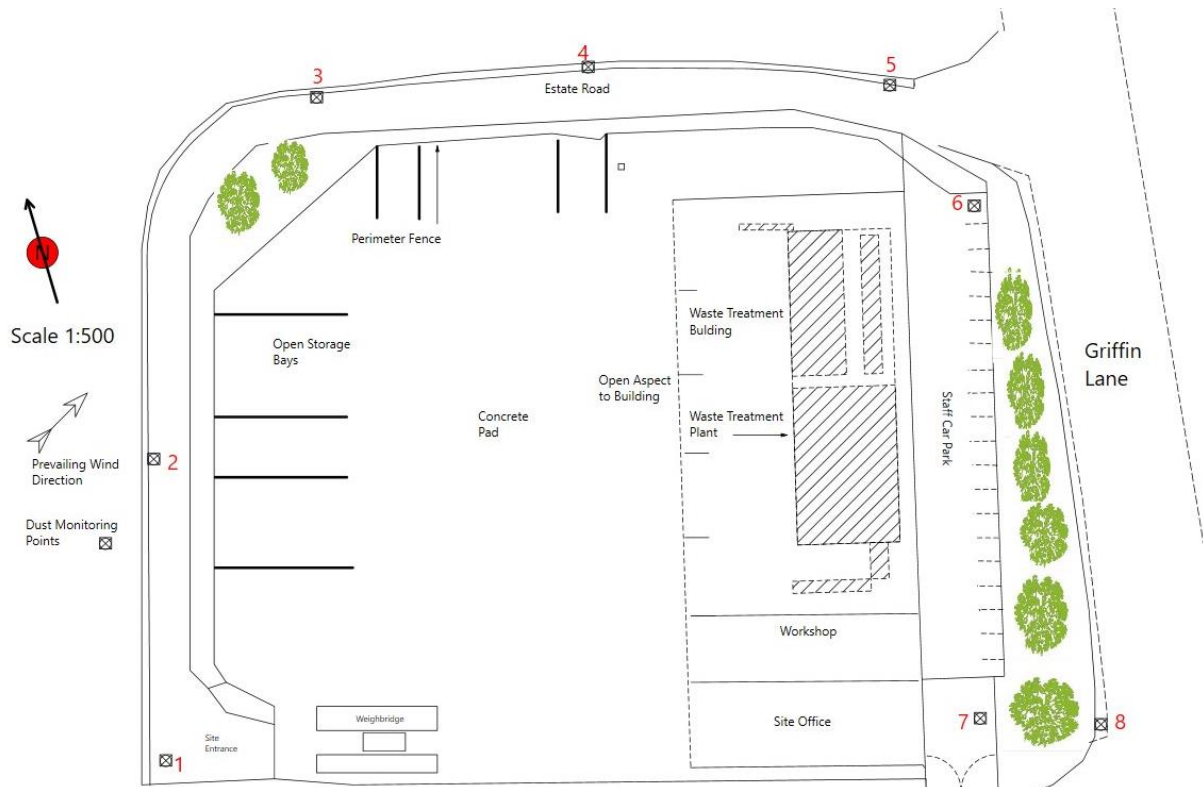
- Routine maintenance pursuant to manufacturers recommendations
- Daily maintenance by operating staff to ensure filters are clean and effective
- Exhaust systems are maintained fully functional
- Lubrication to avoid high friction loss
- Switching off plant when not in use
- Judicious use of air conditioning units
- Only using items of plant when activities demand
- Consideration of the age of plant against cost efficiency of replacement

### 3. Site Infrastructure,

The existing permitted area is wholly constructed of reinforced concrete slab 0.25m thick with a surface area of 9,356m<sup>2</sup> and a linear perimeter measuring 372m.

The main waste reception and processing building is located to the east of the facility and occupies a surface area of approximately 2,000m<sup>2</sup>. Its height is designed to accommodate the large waste handling grabs used for activities associated to operation of the recovery plant.

The perimeter of the site is secured by a combination of 3m high palisade and chain link fencing, except for the south most aspect where Aylesbury Transfer station adjoins a metal recover facility.



Site layout plan.

### 3.1 Site drainage.

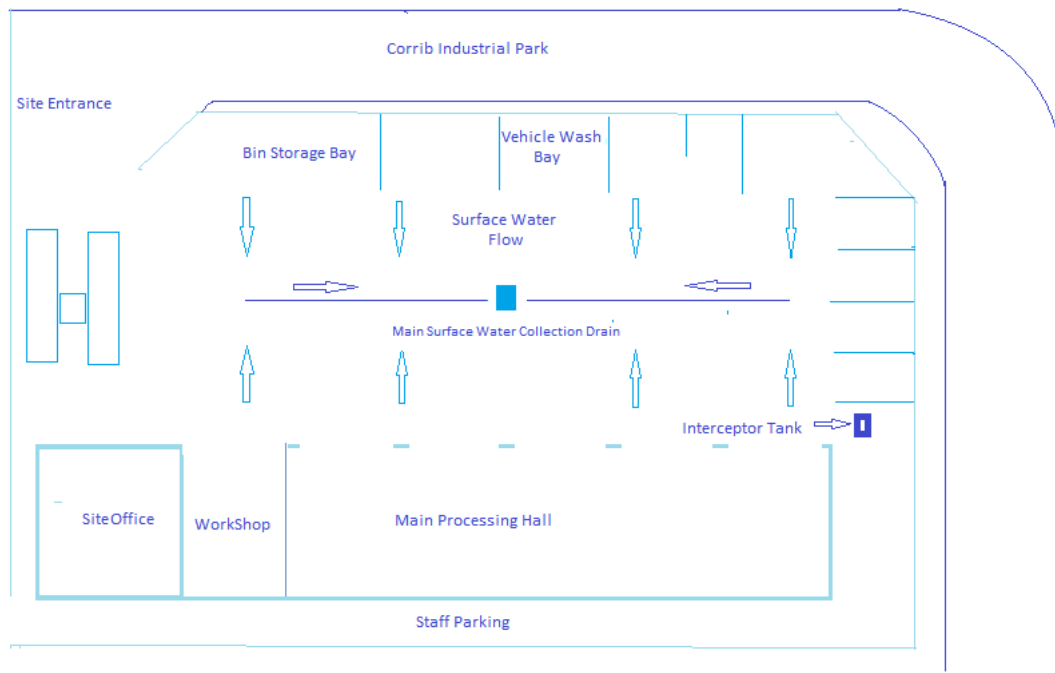
The layout of the waste treatment facility is biased towards the centre line through the concrete pad where gully pot type silt catchment systems are in place. From these surface water is transferred to a silt trap and interceptor and hence to off-site main drainage system common to the industrial estate.

Waste reception, storage and treatment activities take place within the covered building ensure wastes do not come into contact with surface water and therefore controlled off-site emissions are not required.

Grey water collated from the building roof is also transferred to the surface water drainage system.

At this point in time there are no firm plans to interrupt the surface water collection from the roof for use within the treatment plant, particularly the wash plant, however, once the main plant has “bedded” in the benefits of capturing and utilisation will be considered.

Drainage layout.



#### 4. Operating techniques.

##### 4.1 Waste pre-acceptance,

In order to prevent the acceptance of unsuitable wastes which may lead to adverse reactions or uncontrolled emissions, systems and procedures are in place to ensure that wastes are subject to appropriate technical appraisal. This ensures their suitability for the proposed treatment activity. These checks are carried out before any decision is made to accept a waste.

This allows the company to determine the suitability of the waste for the activity and potential treatment and recovery before arrangements are in place to accept the waste. The second stage, acceptance procedures when the waste arrives at the site, serves to confirm the characteristics of the waste.

The following information is obtained before the waste is accepted:

- the type of activity producing the waste and the originating premises (historic land use)
- the composition of the waste (chemicals present and individual concentrations) and ensure that a representative sample(s) of the waste should be taken from the production process and analysed
- for each new waste enquiry, a comprehensive characterisation of the waste and identification of a suitable treatment method is undertaken
- finally assignment of the correct EWC coding from the list of wastes

The waste producer has obligations under the Duty of Care requirements to provide information on the: • composition of the waste • its handling requirements • its hazards • EWC code

Waste streams having the potential for greater recovery of recyclates will be targeted to ensure full utilisation of the treatment plant and the targeted waste mix, density and moisture content are met.

*Black bag waste will be avoided due to the known tendency for odour generation and minimal recovery value. If this type of waste arrives undetected from the initial screening and pre-acceptance stage it will be removed from site at the earliest opportunity without undergoing treatment of any form.*

Waste streams specifically targeted are:

Non-hazardous;

- General industrial and commercial waste - (EWC 20 03 01)
- Construction and demolition – (EWC 17 09 04)

NB. This list is not conclusive as the application to vary the existing permit shall retain the extant waste types and corresponding EWC codes.

#### **4.2 Waste acceptance at site,**

Waste acceptance procedures for when the waste arrives on site are designed to confirm the characteristics of the waste match the initial, pre-acceptance qualities, and expedite review and exchange of paperwork, direct the waiting vehicle to the correct location where visual inspection takes place to confirm the physical nature of the waste and correlation with documentation. This method is useful to assess consistency with pre-acceptance information and proposed treatment method and provide feedback to the management team on the accuracy of information.

Waste streams having a high percentage of an individual waste types suitable for single recovery will be segregated at this point to avoid unnecessary use of the main treatment plant.

Failure of an individual waste load or stream to meet the expected characterisation would be subject to the rejection procedure if determination suggests the waste has been misdescribed or fails to meet the allowable waste types stated in the site permit.

Liquid waste and loads consisting solely of dust will not be accepted at the site.

#### **4.3 Waste storage,**

The main elements of storage requirements are;

- All waste must be stored on the impermeable surface
- All unprocessed waste must be stored and treated within the covered building
- Waste must be stored pursuant to an approved Fire Prevention Plan
- Storage of waste must be considered against the conditions of amenity management plans such as, odour and dust emissions
- Storage must incorporate provision for stock rotation

- The security of stored waste must also be taken into account ensuring the site is isolated from the public

Initial inspection of the waste will determine if non-conforming items are present which can be removed to a suitable secure location before the waste enters the automated treatment process.

Pre-segregate waste entering site will, following inspection, be removed directly to individual waste storage piles in readiness for export from site.

Once sortation has taken place individual waste types remain in the steel structured bays positioned beneath the plant until sufficient quantity is available to warrant transport from site.

External storage of processed (segregated) waste is restricted to the following:

- Ferrous and non-ferrous metals
- Wood
- Heavy plastics
- Fines
- Baled materials
- Aggregates

#### 4.3 Waste segregation,

This topic has been dealt with in stage 1 of this document.

#### 5. Raw materials,

The use of raw materials in the treatment of waste at the facility is small, predominantly water for dust suppression, cleaning machinery and the main component of the wash plant. The list below illustrates the raw materials in use and their corresponding use.

<b>Material</b>	<b>Alternative product</b>	<b>Use</b>	<b>Approximate weekly usage (proposed)</b>
Diesel	Electricity. Not sufficiently developed as a viable alternative to operate heavy mobile plant	Site plant	7,500lts
AdBlue	Required to reduce emissions	Site plant	100lts
Oils and lubes	Essential for the efficacy of machinery	Site plant	5lts



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Water	Compressed air to clean internal compartments	Cleaning plant	5m <sup>3</sup>
Water	None, but avoid the use of additives	Wash plant	600m <sup>3</sup>
Water	None, but good management techniques and housekeeping will reduce excessive need	Dust suppression	30m <sup>3</sup>
Electricity	No alternative.	Site office and workshop	1,515kw
Electricity	No viable alternative	Waste treatment plant	17,985kw

**6. Emissions,**

The control of emissions as a consequence of the various treatment process is detailed in the individual management plans accompanying this permit application and to avoid duplication are not represented here.

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**7. Risk assessments,**

Source of Pollution/Nuisance	Potential Environmental Pollution Nuisance	Pathways	Target Outside Site Boundary	Relative Potential Impact						Control Measures Risk Management
				1	2	3	4	5	6	
Storage of dry wastes	Dust	Air	Local Amenities							<p>Proactive use of hoses on 'needs must' basis. Regular damping down of site areas and stockpiles during periods of prolonged dry weather. Daily visual monitoring for dust at boundaries. Cease activities if dust noted and spray site down. Record monitoring and actions in the diary.</p> <p>Identify potentially dusty loads before deposit on site by interrogation of the vehicle driver at the weighbridge.</p> <ul style="list-style-type: none"> <li>Adherence to dust management plan</li> </ul> <p>Mist air dust suppression system in use whilst treatment of waste is in progress.</p> <p>Use of fixed hoses to damp down machinery and treatment processes.</p>
Treatment of dry waste	Dust	Air								
	Dust	Dust								

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Loading of dry waste onto waiting vehicles									•	Use of site operated road sweeper to keep surface dust to a minimum. Use of yard hoses to maintain a damp operational area during dry conditions
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Source of Pollution/Nuisance	Potential Environmental Pollution Nuisance	Pathways	Target Outside Site Boundary	Relative Potential Impact						Control Measures Risk Management
				1	2	3	4	5	6	
Old waste	Odour	Air	Local industrial premises and housing estate further afield						•	Twice daily olfactory monitoring downwind of site. Household waste if odorous wastes are found they will be segregated, placed in a skip and removed from site as soon as practicable. Monitoring and actions will be recorded in the site diary
Vermin	Pest Scavenger	Immediate Adjacent Environment	Adjacent business  Industrial properties within the locality						•	Control of Waste type. Inert waste is not attractive to pests. Daily monitoring of site for pests and clean-up of site. Pest control company providing relevant expertise and control.
Waste storage	Risk of Combustion	Air	Adjacent Business					•		No fires on site. Training of staff. Fire procedures and weekly drills. Strict adherence to waste acceptance criteria and FPP
Litter	Numerous	Wind Blown	Local highway and drains. Industrial premises					•		Daily litter monitoring and picking of waste and on/off site along all boundaries. Closure to incoming waste during windy conditions if the situation cannot be managed.

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										Record monitoring and actions in site diary
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Source of Pollution/Nuisance	Potential Environmental Pollution Nuisance	Pathways	Target Outside Site Boundary	Relative Potential Impact						Control Measures Risk Management
				1	2	3	4	5	6	
Tipping, Sorting, Screening, Crushing and bulking up of inert Wastes	Noise and Vibration	Air and ground	Local industrial premises							• Waste treatment activities are undertaken within the covered building and waste piles have the virtue of soundproofing the working area. Majority of waste delivery vehicles have hydraulic tail gates that close slowly and do not slam shut
Waste piles dirty bins and fuel spillages	Ground water pollution	Immediate adjacent environment	Ground and surface water							• Impermeable concrete surface and sealed drainage will prevent fugitive emissions
As above	Surface water	Surface water runoff	Adjacent ditches and permeable ground					•		Ensure drainage gullies are clear, building gutters are not leaking. Spill Kits are present, and the compound surface is clean.

Source of Pollution/Nuisance	Potential Environmental Pollution Nuisance	Pathways	Target Outside Site Boundary	Relative Potential Impact						Control Measures Risk Management
				1	2	3	4	5	6	
Floatation Tank	Contaminated water	Percolation through soil to groundwater	Groundwater below the base of the site					•		Impermeable concrete base to be visually inspected for integrity and remedial action carried out to rectify faults.  Water overspill from floatation tank is captured by spill tray installed around the tank.

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										Interceptor tank linked to floatation tank to be inspected for integrity. All such inspections ,to be recorded in the site diary.
Floatation tank	Groundwater pollution	Through impermeable concrete surface, failed drains and escaping the site compound	Local highway and drains. Industrial premises			•		•		Visual inspection of the integrity of the impermeable surface, record in site diary and arrange for repairs if required.  Floatation tank is located in a bunded sealed point whereby all water is collected and recirculated back to the tank.

Source of Pollution/Nuisance	Potential Environmental Pollution Nuisance	Pathways	Target Outside Site Boundary	Relative Potential Impact						Control Measures Risk Management
				1	2	3	4	5	6	
Waste treatment	Risk of combustion	Air and thermal conductivity	Neighbouring premises					•		No fires on site. Training of staff in relation to FPP. Fire procedures. Weekly fire drills. Strict adherence to waste acceptance criteria. No smoking rule
Storage of Diesel	Hydrocarbons	Ground and surface water	Pollution of controlled waters						•	Fuel to be stored in a bunded tank with a capacity of 110% of the total capacity of the tank. The integrity of the fuel tank will be inspected on a frequency no less than monthly.  Drip trays will be used to collect fugitive spillages when refuelling.

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										Spill kits will be kept in close proximity to the tank  Refuelling hoses will be maintained fit for purpose and inspected for the same no less than monthly
As above	Odour	Air	Immediate industrial premises and housing estate further afield						•	In the event of spillage immediate steps to clean up will be undertaken. Contaminated absorbents to be placed within a sealed and labelled container. Record actions in site diary

Source of Pollution/Nuisance	Potential Environmental Pollution Nuisance	Pathways	Target Outside Site Boundary	Relative Potential Impact						Control Measures Risk Management
				1	2	3	4	5	6	
Storage of Diesel	Contaminated surface water	Surface run off to watercourses	Detriment of local environment					•		Control measures are commensurate with the above stated precautions.  Impermeable concrete base to be visually inspected for integrity and remedial action carried out to rectify faults. Spill kits to be readily available and sufficient for the task.

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Individual Waste Types Recovered, (non-hazardous)

Waste type	Hazard rating	D & R code	Score	EWC	Recovery or Disposal	Tonnage per year (approximate)
Non-ferrous metal	2	R3,4,5,11 &12	3	19 12 03	Recovery	7,800
Ferrous metal	2	R3,4,5,11 &12	3	19 12 02	Recovery	6,000
Wood	2	R3,4,5,11 &12	3	19 12 07	Recovery	40,800
Aggregate (hardcore)	2	D5	30	19 12 12	Disposal	69,120
RDF	2	D10	10	19 12 10	Recovery and Disposal	41,472
Plastic	2	R3,4,5,11 &12	3	19 12 12	Recovery	6,912
Mixed	2	R1	6	19 12 12	Recovery	19,584
Fines	2	D5	30	19 12 12	Disposal	13,824
Plasterboard	4	D8 & D9	12	17 08 02	Recovery	6,912

Disposal Impact calculation,

Waste type	Hazard rating	Score	Total impact score	EWC	Recovery or Disposal	Tonnage per year (approximate)
Non-ferrous metal	2	3	0	19 12 03	Recovery	7,800
Ferrous metal	2	3	0	19 12 02	Recovery	6,000
Wood	2	3	0	19 12 07	Recovery	40,800
Aggregate (hardcore)	2	30	60	19 12 12	Disposal	69,120

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RDF	2	10	20	19 12 10	Recovery and Disposal	41,472
Plastic	2	3	0	19 12 12	Recovery	6,912
Mixed	2	6	0	19 12 12	Recovery	19,584
Fines	2	30	60	19 12 12	Disposal	13,824
Plasterboard	4	12	0	17 08 02	Recovery	6,912
<b>Totals</b>			<b>140</b>			<b>124,416</b>

Recovery impact calculation,

Waste type	Hazard rating	Score	Total impact score	EWC	Recovery or Disposal	Tonnage per year (approximate)
Non-ferrous metal	2	3	3	19 12 03	Recovery	7,800
Ferrous metal	2	3	3	19 12 02	Recovery	6,000
Wood	2	3	3	19 12 07	Recovery	40,800
Aggregate (hardcore)	2	30	0	19 12 12	Disposal	69,120
RDF	2	10	10	19 12 10	Recovery and Disposal	41,472
Plastic	2	3	3	19 12 12	Recovery	6,912
Mixed	2	6	6	19 12 12	Recovery	19,584
Fines	2	30	0	19 12 12	Disposal	13,824
Plasterboard	4	12	12	17 08 02	Recovery	6,912
<b>Totals</b>			<b>40</b>			<b>124,416</b>



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Waste disposal scenario derived from the above Recovery / Disposal assessment.

<b>Total impact score Disposal</b>	<b>17,418,240</b>
<b>Total impact score Recovery</b>	<b>4,976,640</b>

It may be postulated from the table and assessment above that the recovery operation presents the least environmental impact and underlines the validity of the development proposal.

## **8. Energy Efficiency,**

The technical specification of the plant in use at the site represents the most efficient use of energy, taking account of the available technological advances for the type of equipment in use. With this in mind it falls to the operator to reduce the energy and raw material usage by development of procedures specifically designed for such undertakings.

Maintenance and service programmes will be in place to ensure items of plant are operating at maximum efficiency and general wear and tear is identified and acted upon in a timely manner.

During times of low productivity plant and equipment usage will be reduced according to throughput and when not in use, cease operation altogether.

Raw material usage will be reviewed biannually to ensure current levels are commensurate with expectation and viable alternatives considered.

The above recommendations are not exhaustive and more detailed assessment is mentioned in the environmental management system document (EMS)