

Licence Review Application No. – LA001472

NON-TECHNICAL SUMMARY

Submission By: Miltown Composting Systems Ltd.
Miltownmore,
Fethard,
Co. Tipperary

Submission To: Environmental Protection Agency.
Office of Climate Licensing & Resource Use,
PO Box 3000,
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A INTRODUCTION

A.1. General

This document summarises the information included in the application to the Environmental Protection Agency (EPA) for the review of Licence Ref. W0270-01.

B FACILITY OVERVIEW

B.1. Ownership & Location of Facility

The Milltown Composting Systems Ltd. (Milltown) in-vessel composting facility at Milltown More, Fethard, County Tipperary operates under an Environmental Protection Agency (EPA) Waste Licence (Ref. W0270-01) issued on the 9th of September 2010. The facility also has approval from the Department of Agriculture Food and the Marine (DAFM) to operate as a composting plant accepting Category 2 and Category 3 animal by-products.

The facility originally began operations in 2004 under a Waste Permit (Ref. WP 019 02) issued by South Tipperary County Council. The predominant materials accepted was organic fines material from the treatment of mixed municipal solid waste, with smaller amounts of non-hazardous industrial and municipal wastewater sludges, and off specification animal feed. The actual amount processed on site is dependent on market conditions and fluctuates to meet market demand. The roll out of source segregated collection of household organic waste in the Southern Region, and the increased source segregation for commercial activities has increased the volume of organic bio-waste and organic fines material requiring biological processing in the Southern Waste Management Region. To meet the market demand for the requirements for increased biological treatment, Milltown proposes to increase its capacity to a maximum of 50,000 tonnes/year and to include an Integrated Constructed Wetlands to treat non-process roof and yard water.

C PROPOSED LICENCE REVIEW

Milltown Composting Systems Ltd. is applying to the Environmental Protection Agency (EPA) for the review of their existing Waste License (W0270-01). Milltown proposes to increase its capacity from the current limit of 24,500 tonnes per annum to a maximum of 50,000 tonnes/year and to include an Integrated Constructed Wetland (ICW) to treat non-process roof and yard water (and the relocation of the existing surface water monitoring point [SW1] to a new location at the outlet from Pond 8 of the ICW [SW1a]). The sections of the existing licence (W0270-01) to be reviewed are outlined in Table 1.

Table 1: Proposed Licence Conditions for Review

Condition/Schedule	Current	Proposed Change
Condition 3.7.3	The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity 24,500 tonnes per annum of incoming biowaste of the equipment at the facility	<i>The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity 50,000 tonnes per annum of incoming biowaste of the equipment at the facility</i>
Schedule A.2	Current Maximum Tonnes Per Annum – 24,500	Maximum Tonnes Per Annum – 50,000
Condition 3.12	The licensee shall provide dedicated on-site storage tank(s) to provide for the	<i>The licensee shall provide dedicated on-site storage tank(s) to provide for the</i>

	collection of clean roof water runoff from any site building(s). This water shall be re-used in the process where possible	<i>collection of clean roof water runoff from any site building(s). This water shall be re-used in the process where possible. Any excess clean roof water and clean yard water runoff will be diverted through the on-site Integrated Constructed Wetland (ICW) system for treatment prior to discharge from site.</i>
Schedule C.2.1	Current Monitoring of Emission to Water Point - Reference No: SW1	Proposed Monitoring of Emission to Water Point - Reference No: SW1a (outlet of final pond in ICW)

The review of the licence will result in the facility falling under the Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013. Miltown are proposing to increase the daily throughput of the facility to approximately 160 tonnes per day which would exceed the 75 tonnes per day threshold under article 11.4(b) of the European Union (Industrial Emissions) Regulations 2013 (S.I., 138 of 2013) whereby the facility would require an Industrial Emissions (IE) licence. According to the First Schedule to EPA Act 1992 as amended the facility falls under the following;

11.4 (b) Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, (other than activities to which the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) apply:

- (i) biological treatment
- (ii) pre-treatment of waste for incineration or co-incineration
- (iii) treatment of slags and ashes
- (iv) treatment is shredders of metal waste including waste electrical and electronic equipment and end-of-life vehicles and their components.

The activity does not come under the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) and a derogation under Section 86A(6) is not being sought for the facility.

C.1. Planning Authority

The planning authority for the site is Tipperary County Council. A planning application was submitted to Tipperary County Council for the proposed increase in tonnage throughput at the facility. In accordance with Schedule 5 of the Planning Regulations 2001 an Environmental Impact Statement was prepared as part of the planning application to Tipperary County Council for the increase in tonnage throughput (Planning Ref. 17600372) and this EIS is included with the licence review application. Planning for the use of the Integrated Constructed Wetland (ICW) at the site was granted by Tipperary County Council under permission 15500089. Copies of the planning permissions associated with the site (including permission 17600372 for increased throughput at the facility) are attached with the review application.

C.2. EIS SUMMARY

An Environmental Impact Statement (EIS) is submitted as part of the application and a summary of the likely significant effects and mitigation measures are outlined below.

Environmental Factor	Likely Effects Identified	Brief Description of Effect	Mitigation Measures Proposed to Control Effects
Surface Water	Runoff from Process Area to Surface water Receptors	Organic impacts on Surface water emissions from the site	<p>As part of the proposed development, a Containment Tank (47.54 m³) will be installed as part of the recirculation system at the southwest corner of Shed 1. This tank will be used for the storage and recirculation of potentially contaminated surface water runoff from the ramped waste intake area to ensure that any runoff is directed in a controlled manner to the on-site contaminated water/leachate recirculation system. The impacted water will be used as part of the composting process (dampening the pre-composting bays in Shed 1).</p> <p>As part of the revised leachate collection system, collected impacted water will be directed initially to leachate tank 1 in the reception area and then to a new pump/sump tank located south of the amendment storage area, from where it will be pumped to the recirculation tank for recirculation into the process.</p> <p>The provision of an impermeable surface for the new turntable area for vehicles delivering organic waste to the facility. This also includes the appropriate management of potentially contaminated surface water runoff from this area, which will be directed to the dedicated contaminant/recirculation system.</p> <p>To manage any possible spillage risk on the turntable area Miltown will update their Waste Acceptance Procedure (SOP MC01), the Cleaning and Hygiene Procedure (SOP MC 03) and the site Emergency Response Procedure. The updated SOPs will ensure that the turntable area is inspected after every delivery for spillage and if in the event of a minor spillage that a spill kit including a suitable absorbent material will be at hand in order to undertake a clean-up if required, meeting license condition. If required any contaminated surface waters can be diverted to the leachate collection/recirculation system.</p> <p>Construct a 0.7m high kerb around the base of the new reception building, thereby allowing the use of this area within the new reception building footprint for firewater retention and also ensuring that any possible spillage is directed into the leachate collection system via the new pump house drainage.</p> <p>As part of the revised leachate/impacted surface water collection system, collected water will be directed initially to leachate tank 1 and then to a new pump sump tank located south of the amendment storage area. Depending on the volume of liquid directed to the pump sump tank</p>

			<p>through the leachate collection system the collected liquid will be manually pumped from the pump/sump tank back up to the filtration system in the pump house for re-circulation to the pre-composting bays. For large volumes of liquid release (i.e., large spill or fire water) automatic pumping will take place to pump any possible initial firewater or major spillage liquid back up the new consigned contaminated water storage tank. This pump/sump tank has a high level liquid alarm which sends a text to the site managers and operators in the event of a problem.</p> <p>Installing a new roof and impermeable concrete floor at the waste reception area has reduced the potential for run off of impacted surface water to open ground, where it could potentially migrate to the underlying aquifer.</p> <p>All potentially impacted surface water runoff at the reception area will be collected and recirculated back into the process. No water from the reception area will be allowed to migrate from the building.</p> <p>All non-impacted surface water will be diverted to the oil/water interceptor and released from there to the surface water drain. It is envisioned by Miltown that this non-impacted water will be released to the Integrated Constructed Wetlands (ICW) onsite, pending EPA approval. The ICW ponds will provide treatment on the non-impacted water to ensure that there are no emissions from the facility.</p>
Noise	Nuisance Impacts on Noise sensitive Receptors	Noise from traffic or site operations impacting on local residents	<p>The traffic assessment, as outlined in Chapter 12 of the EIS indicated that there will be an increase of five truck movements which will be spread over the whole day to ensure that the noise impacts are spread over the day to ensure a minimal effect on the noise sensitive receptors surrounding the Miltown facility</p> <p>All machinery at the Miltown facility will have frequent maintenance carried out to ensure that the machinery is operating optimally and not emitting at a high noise output.</p> <p>With the increased levels of traffic owing to the increase of throughput at the facility, Miltown will ensure that no queuing of incoming lorries will occur on the laneway to prevent the noise emitted from the lorries affecting noise sensitive receptors in the vicinity</p> <p>Miltown will ensure that there are no deliveries or transfer of material off site occurring outside of the operational hours of the facility</p>

			<p>It will be advised by Miltown that the trucks arriving and leaving the facility avoid using air brakes to reduce the potential noise emitted from their movements</p> <p>During operational activities occurring at the facility, all doors will be closed to ensure that no unnecessary noise emissions occur</p>
Air	Odour Impacts on Sensitive Receptors	Odour from site operations impacting on local residents	<p>With the addition of the new enclosed reception building, adjustments to the air collection and the biofilter system will be made to cater for the potentially odorous air removed from the new reception building to the biofilter. The new reception building has been added to the existing extraction system and exhausted through the existing increased biofilter. In order to meet the requirements of the current 'Draft BAT Conclusions Specific to Indoor Composting for Vessel or Enclosed Building Design'- air extraction should be designed and maintained to move and handle the volume of air to provide a clear working environment it is intended to aspirate the reception yard at two air changes per hour, this will require the additional air to be treated in the biofilter.</p> <p>The increase of the media (i.e., wood chip) volume within the existing biofilter was achieved by placing 150mm of additional material on top of the existing filter and extending the height of the perimeter walls by 150mm to contain the additional media.</p> <p>The existing extraction duct system is arranged with two 900 mm ducts, linked to the fan at the biofilter. These run to the centre of the roof of Shed 1 with one duct branching off to the east of the shed with 9 inlets running along the ducting. The second duct branches to the west of the shed, with 6 inlets running along the duct. The proposed aeration of the new reception building will be achieved by extending the west side duct into the reception building area and fitting 2 additional extraction inlets on the extended section.</p> <p>The odour management plan for the site will be reviewed to ensure that odours are minimised, including;</p> <ul style="list-style-type: none"> • Control of waste input characteristics (e.g. C: N ratio, particle size) - This is controlled by the addition of wood chips to the waste; • Control of moisture content; • Control of air diffusion through the waste – through the automatic control system; • Control of temperature – through the automatic control system.

C.3. BAT Conclusions

The proposed development will continue to operate in such a way as to minimise environmental impacts as far as practicable. The operation of the facility will be carried out in accordance with good practice and Best Available Techniques (BAT) guidelines. This review has taken into account the Best Available Technology (BAT) Guidance Notes issued by the EPA "Final Draft BAT Guidance Note on Best Available Techniques for the Waste Sector: Waste Transfer and Materials Recovery", 2011. A listing of the BAT notes reviewed and deemed applicable to the proposed development as part of the operational requirements as an Industrial Emissions facility are provided in Attachment 1.

D FACILITY OPERATIONS & POTENTIAL ENVIRONMENTAL IMPACTS

D.1. Facility Operations

The composting is an in-vessel system that accepts a broad range of compostable materials including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal waste water sludges and organic fines generated in the treatment of mixed municipal solid waste (MSW).

The treatment process, depending on the nature of the source material, can involve blending with bulking agents, composting in separate process bays, maturation in windrows and post treatment to remove impurities. Due to the modular lay-out, the tunnels/bays can be operated independently, which provides flexibility in treating the different organic waste streams. The finished product can, depending on quality, be used for horticultural and agricultural purposes, or as landfill cover.

D.1.1. Composting Operations

The current facility is an aerobic composting plant that accepts a broad range of compostable materials including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal waste water sludges and organic fines generated in the treatment of mixed municipal solid waste (MSW). The treatment process, depending on the nature of the source material, can involve initial screening to remove contaminants, blending with bulking agents, composting in separate enclosed bays, maturation in windrows and post treatment to remove impurities. Due to the modular lay-out, the composting tunnels/bays can be operated independently, which provides flexibility in treating the different organic waste streams. The finished product can, depending on quality, either be used for horticultural and agricultural purposes, or as landfill cover.

The waste feedstock material is received in the new reception shed (ca. 700m²) located immediately to the west of Shed 1, which occupies an approximate area of 1,700 square meters (m²). Maturation is carried out in sheds to the east of shed 1. The site office is a porta cabin located at the north-west corner of Shed 1 and a small canteen/changing room is located to the south west of Shed 1. A bunded area on the northern area of the reception building is used to store diesel, lubricating/hydraulic oil and the power washer. The covered yard to the east of Shed 1 and the new reception building to the west of Shed 1 are paved with impermeable concrete. The biofilter is located on the southern side of Shed 1.

The materials are transferred from the reception area to the vessels using the telescopic loaders. The material placed in each of the vessels is assigned an individual batch number to allow performance monitoring during the treatment stages and ensure the maintenance of accurate records. Five (5 No.) temperature probes are placed within the waste mass before sheeting is placed over the top of the vessel. There is a computerised process control system, located in the site office, which records the temperature in each vessel to ensure that optimum composting conditions are maintained. In addition to the constant temperature monitoring, oxygen levels are monitored using a hand held probe. The moisture level is assessed either visually or using a hand held moisture meter. In order to comply with the Animal By-Products Regulations a 'two barriers' system is operated in the MSW/kitchen/catering waste processing area. The objective is to ensure a maximum particle size of 400mm and achieve a sustained temperature of 60°C over two separate 48 hour periods (the MSW fines as delivered typically have a particle size less than 40 – 50 mm). Large items are manually removed and reused back in the process as bulking agents for future compost batches.

Maintaining the temperature at 60°C for the two separate time periods is done by composting the same batch in two different bay vessels. In the first vessel, or Barrier 1, the process usually takes one week. When completed, the material is removed to a second Vessel-Barrier 2-where it is thoroughly mixed and again composted until the temperature requirements are met. To avoid cross contamination different loaders and buckets are used to move the materials into and out of the vessels.

When the material has completed the thermophilic stage it is removed from the Vessel Barrier 2 and transferred to the Sheds to the east where it is formed into windrows for maturation. The windrows are formed using the telescopic loader and are turned as required using either the specialized turner or the loader. Temperature, oxygen and moisture content are regularly monitored and the turning regime amended as required to ensure optimum conditions. The mesophilic stage can take up to 6 weeks. When complete the compost may, depending on the nature of the source material, be screened to remove oversized contaminants. These are stored on-site in Shed 3 pending consignment to off-site disposal/treatment facilities.

In order to increase visibility within Shed 1 and treat odorous air, an air extraction fan removes air from the building and channels it into the woodchip biofilter located to the south of the building. The biofilter consists of a large concrete box, in which a thick layer of coarse shredded wood chips is placed, with a manifold and a system of air ducts on the bottom to ensure an even distribution of air. The biofilter is visually monitored by the operator on duty. This includes a check on the moisture content, pH, airflow and temperature. The moisture content is the single most important parameter for the efficient microbial activity. For a typical natural biofilter media (e.g. wood chips plus peat) the moisture content should be maintained in the range of 40 to 60 percent. Water is applied to the filter as required to ensure optimum efficiency. Every 5-6 years, part of the biofilter material (wood chips) are replaced by fresh material, in order to maintain the odour removal efficiency of the filter. Since bio-filtration is a microbiological process, a sudden mechanical breakdown or failure of a complete biofilter is unlikely to happen. However, in the unlikely event a failure of the biofilter, or during the regular replacement of biofilter media, no process air will be directed to the biofilter.

Six people are currently employed full time at the facility and three are employed part time comprising of managers and operatives. The current operational hours at the facility are 06:00 to 18:00 Monday to Saturday.

The main inputs to the process include diesel (i.e., approximately 200m³ per year) for the operation of on-site machines, electricity for lighting and operation of the aeration and air abatement system (i.e., approximately 187,850 MWh per year) and some supplemental water used to maintain optimum moisture levels in the composting bays (i.e., approximately 20m³ per year).

D.1.2. Facility Emissions

As part of the review application a Baseline Assessment Screening was completed and based on the site activities and materials and products used on site a full Baseline Assessment was not considered necessary.

The main environmental emissions from the proposed facility will be similar in nature to the existing facility. The main emissions will be noise from the operation of the facility aeration fans and trucks delivering material to and from the facility, air emissions from the composting facility composting sheds and surface water emissions from the site building roofs and non-process related yard areas. All process related water/leachate will be recirculated through the process and will not be an emission from the facility. As part of the review application a site condition was completed (see Attachment 4.8 of application). The results of the report found the following:

D.1.2.1 Groundwater

Milltown Composting perform annual groundwater monitoring at three groundwater monitoring wells (i.e., GW1, GW2 and GW3) to comply with their EPA Waste Licence. The following parameters are outlined in the facility's Waste Licence for sampling and analysis;

- pH
- Nitrate
- Total Ammonia
- Total Nitrogen
- Conductivity
- Chloride
- Organic Compounds

The groundwater sampling programme completed at the Milltown facility between 2011 and 2017 has indicated that the concentrations of all parameters in monitoring wells GW1, GW2 and GW3 were less than the ELVs for the site licence.

D.1.2.2 Sewer

There is no connection to a foul sewer mains system from the site and sanitary and sink wastewater from the site welfare facilities (i.e., toilets and canteen) is currently discharged to an on-site waste water treatment system and percolation area. No waste water from the compost process is discharged to the septic tank system. All waste water/leachate is recirculated back through the process via a holding tank located south of Shed 1.

D.1.2.3 Storm Water/Surface Water

As part of the current licence compliance, Milltown composting completed bi-annual monitoring of surface water quality at the site. The parameters sampled are outlined in the facility's EPA Waste Licence and include; BOD, Suspended Solids and Ammonia (NH₄-N).

Historically there were some ammonia impacts in the surface water samples collected at the discharge location at the Miltown Composting facility. Monitoring results at surface water monitoring location SW-1 indicated ammonia concentrations which exceeded the environmental quality standard and as such a control measure was required to reduce potential impacts on surface water emissions from the waste reception yard to the west of shed 1. In 2015 a new waste reception building was constructed to cover the yard area that was identified as a source of ammonia impacts on surface water discharge from the site. Since the highest concentration was recorded in October 2013 (i.e., 27.81 mg/l) there has been a significant decrease in the concentrations of ammonia at SW1 resulting in a concentration of 0.35 mg/l in July 2017.

The results indicate that the surface water from the site may require additional mitigation prior to discharge from the site. The licence review includes for the use of the existing ICW to further polish the surface water prior to discharge from the site. It is proposed that the surface water sampling location will move from the existing sample location SW1 to the discharge from the final pond in the ICW (SW1a). The ICW would allow for the further natural attenuation of surface water discharged from the site whereby the biomass within the ICW would take up any excess ammonia in surface waters flowing through the system.

Proposed Additional Mitigation Measures

To further reduce further potential impacts on environmental receptors from the proposed development, Miltown also have some additional proposed mitigation measures outlined below;

- It is proposed by Miltown that non-process surface water from the site shed roofs and yard areas will be diverted to the existing Integrated Constructed Wetlands (ICW) onsite. The ICW ponds will provide treatment on the non-impacted (i.e., open yard and roofs) surface water from the site to ensure that any surface water produced from the site receives additional treatment before discharge from the site to reduce the potential for impacts to soils or groundwater receptors.

The proposal is to include the Integrated Constructed Wetland (ICW) at the Miltown site as a treatment system for roof and yard run-off from the site within their reviewed licence. Tipperary County Council granted planning permission (Planning No. 15/600089) on the 7th of February 2016 for the retention of the ICW system.

The proposed change will re-direct surface water run-off from shed roofs and non-process related yard surfaces from an open drainage ditch to an ICW that already exists on the Miltown Composting site. The surface water currently discharges from the site via the current drain located at the south west corner of the site. It is considered that the use of the ICW would provide further treatment and polishing of surface water quality prior to discharge from the site. The ICW is located to the south of the existing cattle sheds at the site, and have an area of approximately 4,417m². As part of the planning application (Planning No. 15/600089).

The design criteria for the system is that free surface water flow is the basic hydrological route for the influent through an ICW sequential arrangement of constructed depressions (i.e., 8 ponds) in which aquatic, emergent and marginal plants may be grown are basic to the design to maximise treatment, through plant density and utilisation.

The site has been assigned a groundwater response of R31 (DoECLG, 2010), this requires that the base of each pond shall be underlain with 1.0m of cohesive subsoil material beneath the wetland with the

upper 0.5m having a permeability of $<1 \times 10^{-8}$ m/s. Based on the site investigation and soil testing these minimum requirements have been achieved using the on-site soil material, thus providing the necessary groundwater protection for the site.

The operational water depth within each treatment pond is between 150 mm - 300 mm, with a capacity to provide periodic increases in water depth. The pond embankments are gently sloping, and the upper embankments are 1.5-2.0m wide to allow for safety and proper access for maintenance.

The ponds are connected using 150 mm diameter Upvc pipes. The pipes are placed at the base of the wetland floor and water levels can be managed within each pond by placing adjustable bends on the outlet pipe of each pond.

The relatively larger land area used in ICW's compared with that of other treatment wetlands facilitates a greater range of the physical, chemical and biological processes that occur in the wetland environment including that required for the removal of the more difficult contaminants of phosphorus and nitrates. It also provides greater robustness and removes the need for intensive management.

Wetlands both natural and constructed have an innate ability to cleanse water through physical, chemical and biological processes. The main treatment processes include:

- Uptake and transformation of contaminants/nutrients by micro-organisms and plants.
- Breakdown and transformation of contaminants/pollutants by micro-organisms and plants.
- Filtration and chemical precipitation through contact with substrate and plant litter.
- Settling of suspended particular matter.
- Chemical transformation of pollutants
- Absorption and ion exchange on the surface of plants, sediment, and litter (of particular relevance to the capture and storage of phosphorus).
- Predation and natural die-off of pathogens (e.g. e. coli and cryptosporidium)

D.1.2.4 Air Emissions

In order to meet the condition requirements of the site Waste Licence the Milltown Composting site completes the following monitoring at the facility to ensure that the operation is not impacting air quality in the area;

- Ammonia (NH₃)
- Hydrogen Sulphide (H₂S)
- Mercaptans
- Dust Deposition
- Particulate Matter (PM)
- Bioaerosols (Total Fungi/Bacteria and Aspergillus fumigatus)
- Amines (Ammonia Derivatives)

Milltown have odour control measures in place at the facility which consists of an air extraction and biofilter treatment system. The Milltown Composting biofilter is located to the south of Shed 1. Operational experience of the facility has found that it has not been necessary to continuously operate at maximum capacity, and an air change rate of 1 per hour has been effective in controlling odour emissions. To assess the effectiveness of the control system a monitoring programme is completed as required by Waste Licence W00270-01. The results of the monitoring programme are outlined below. Concentrations of chemical species of interest are collected at the two Inlet pipes to the biofilter bed. To assess the efficiency of the biofilter system, a sample is also collected and analysed from the

biofilter from the biofilter bed surface. The results of the air sampling program completed at the biofilter between 2011 and 2017 indicated that all air emission parameters (i.e., amines, H₂S, ammonia and mercaptans) from the facility were less than the applicable ELVs.

Dust monitoring was also completed on site at three locations as part of the site licence conditions using dust gauges conforming to the Standard Method VD12119. The results of dust deposition sampling completed at the site has indicated concentrations less than the ELV of 350 mg/m²/day for all monitoring locations between 2011 and 2017 except for one monitoring event in October 2011 when sample D3 was contaminated by bird droppings.

Bi-annual sampling for PM₁₀ concentrations is completed adjacent to the biofilter unit at the Miltown site as part of the licence conditions. All PM₁₀ concentrations collected between 2011 and 2017 were below the applicable ELV.

Proposed Additional Mitigation Measures

The main perceived nuisance associated with the development may be odour. The aspiration system for the facility was augmented to provide aspiration to the extended enclosed reception area and new process bay located inside the reception building by extending the ductwork into the new structure.

The new reception building has been added to the existing air extraction system and exhausted through the existing biofilter. In order to meet the requirements of the current 'Draft BAT Conclusions specific to indoor composting for Vessel or enclosed building design - Air extraction should be designed and maintained to move and handle the volume of air to provide a clear working environment. The atmosphere inside the new reception building is exhausted at 2.5 Air Changes per hour, this will require the increased air volume (total calculated at 44,270 m³ – see Table 1) to be treated in the biofilter with a residence time of 40 seconds. Based on the increased air volume to be treated and the proposed residence time it has required the total media depth of the biofilter to be 950mm, see Table below.

Biofilter Increased Volume Required to Treat Increased Air Volume from Additional Areas

	Length (m)	Width (m)	Depth (m)	Volume (m ³)	Residence Time (secs)
Current Biofilter Volume	13	40	0.8	416	
Shed 1 Volume				12,935.32	
New Reception Shed Volume				4,773	
Total Volume of Sheds				17,708.32	
Total Volume at 2.5 air changes per Hour Loading Rate <100m ³ /hr/m ³ of Filter Media				44,270	
Increased Biofilter Volume (m ³)	13	40	0.95	494	
Air Volume Throughput at Biofilter (m ³ /sec)				12.29722	
Residence Time in Biofilter Media (seconds)					40.17

The increased air volume requiring treatment resulted in a requirement to increase the treatment media (wood chip) volume within the Biofilter which was achieved by placing 150mm of additional media on top of the existing filter and extending the height of the perimeter walls by 150mm to contain the additional media. To maintain the proposed aspiration rate in the new reception area an additional loading of approximately 30% additional air volume will be required to pass through the biofilter, the odour loading from the reception building is significantly less than the odour loading from

the air extracted from Shed 1 where air is forced through the composting material in the processing bays and exhausted through the extraction ductwork.

The ducting system is currently arranged with two (2) 900 mm ducts from the fan at the biofilter to the centre of the roof of shed 1 with one duct directed towards the east of the shed with nine (9) inlet grills, the other duct is directed west and has six (6) inlet grills. The air control within the new reception building is through an extension to the west side ducting into the new reception area and fitting 2 additional extraction grills on the extended section. The ducting system is balanced by inlet grills on each of the air inlets. It is proposed to utilize the existing air fan to extract the full air load capacity. The motor on the existing fan is fitted with variable speed controller which controls the air volume extracted from the building.

D.1.2.5 Noise Emissions

Noise emission monitoring was completed at the Miltown facility as part of the existing site licence conditions. The monitoring concentrate mainly on NSL location which is the closest noise sensitive receptor to the facility located approximately 900m to the northwest. The results of the monitoring completed between 2011 and 2017 indicated the following:

- Daytime noise readings at NSL ranged between 43 dB L_{Aeq} in 2016 and 60 dB L_{Aeq} in 2012. All other dB L_{Aeq} daytime readings recorded between 2011 and 2016 were less than the EPA licence limit of 55 dB L_{Aeq}
- All L_{A90} readings for day time measurements at NSL were less than the 55 dB L_{Aeq} limit.
- Night time noise readings at NSL ranged between 38 dB L_{Aeq} in 2011 and 52 dB L_{Aeq} in 2014. There was one other reading at NSL that marginally exceeded the 45 dB L_{Aeq} night time limit (i.e., 48 dB L_{Aeq} in 2014).
- All L_{A90} readings for night time measurements were less than 38 dB and were the significantly less than the 45 dB L_{Aeq} limit.
- Daytime noise readings at N2 ranged between 50 dB L_{Aeq} in 2016 and 67 dB L_{Aeq} during the monitoring event in 2014. All but one of L_{Aeq} daytime readings recorded between 2011 and 2016 were greater than the EPA licence limit of 55 dB L_{Aeq}
- All L_{A90} readings for day time measurements were less than the 55 dB L_{Aeq} limit, with the exception of the 2011 monitoring event, which marginally exceeded the 55 dB L_{Aeq} limit (N2 2011-56 dB L_{Aeq}).
- Night time noise readings at NSL ranged between 37 dB L_{Aeq} in 2015 and 62 dB L_{Aeq} in 2011. There was one reading at N2 that was less than the 45 dB L_{Aeq} night time limit (i.e., 37 dB L_{Aeq} in 2015).
- All L_{A90} readings for night time measurements were less than 45 dB, with the exception of 61 dB L_{Aeq} during the 2011 monitoring event.

Proposed Additional Mitigation Measures

The current operations are not considered to be having an impact on the surrounding area or on noise sensitive receptors. However, with an increased throughput at the Miltown facility the mitigation measures to ensure no noise pollution will be updated;

- According to the traffic assessment, as outlined in Chapter 12 of the attached EIS, there will be an increase of five truck movements which will be spread over the whole day to ensure

that the noise impacts are spread over the day to ensure a minimal effect on the noise sensitive receptors surrounding the Miltown facility

- All machinery at the Miltown facility will have frequent maintenance carried out to ensure that the machinery is operating optimally and not emitting at a high noise output.
- With the increased levels of traffic owing to the increase of throughput at the facility, Miltown will ensure that no queuing of incoming lorries will occur on the laneway to prevent the noise emitted from the lorries effecting noise sensitive receptors in the vicinity
- Miltown will ensure that there are no deliveries or transfer of material off site occurring outside of the operational hours of the facility
- It will be advised by Miltown that the trucks arriving and leaving the facility avoid using air brakes to reduce the potential noise emitted from their movements
- During operational activities occurring at the facility, all doors will be closed to ensure that no unnecessary noise emissions occur

The proposed development is for the increased throughput at the existing compost facility. The process operation will require the use of the same operations and process equipment that is currently in use at the site. As is the case with the existing facility, there will be limited noise generated during the operational phase of the proposed development that could impact the closest noise sensitive receptors in the vicinity of the composting facility. All process equipment (i.e., front loaders and screeners) will be located inside the process building and noise impacts will be contained, to a large extent, within the process building as is the case with the existing facility.

Traffic

The traffic assessment, outlined in Chapter 12 of the EIS reported that there will be an increase of five truck movements (five in and five out) and four small vehicle movements with the proposed development which will be spread over the whole day to ensure that the noise impacts to the closest noise sensitive receptors are spread over the day to ensure a minimal impact. Based on a 12 hour working day the increase in truck movements would be an additional 0.8 truck movements per hour which would be considered to have a negligible impact on the noise climate at the closest noise sensitive receptors and that the current noise climate at the closest noise sensitive receptors would not be impacted. Also, because the proposed facility will be closed after 19.00 (i.e., does not accept or transport material during night time hours) any minor traffic impacts are isolated to daytime hours.

Prediction of Impact at Noise Sensitive Receptor

The draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics / Institute of Environmental Management and Assessment Working Party have been referenced in relation to the potential impact of changes in the ambient noise levels at NSL for an increase in traffic related to the proposed development at Miltown.

The draft 'Guidelines for Noise Impact Assessment' impact scale adopted in this assessment is shown in Table C below. The corresponding significance of impact presented in the 'Advice Note on Current Practice (in the preparation of Environmental Impact Assessments) (2003)' is also presented.

Noise Impact Scale

Noise Level Change dB(A)	Subjective Response	Impact Guidelines for Noise Impact Assessment Significance	Impact Advice Note on Current Practice (in the preparation of E/As)
0	No change	None	Imperceptible
0.1 – 2.9	Barely perceptible	Minor	Slight
3.0 – 4.9	Noticeable	Moderate	Moderate
5.0 – 9.9	Up to a doubling or halving of loudness	Substantial	Significant
10.0 or more	More than a doubling or halving of loudness	Major	Profound

The criteria above reflect the key benchmarks that relate to human perception of sound. A change of 3 dB(A) is generally considered to be the smallest change in environmental noise that is perceptible to the human ear. A 10 dB(A) change in noise represents a doubling or halving of the noise level. The difference between the minimum perceptible change and the doubling or halving of the noise level is split to provide greater definition to the assessment of changes in noise level. It is considered that the criteria specified in the above table provides a good indication as to the likely significance of changes on noise levels in this case and as such, they have been used to assess the impact of traffic noise on the closest noise sensitive receptor.

Due to the nature of the site and surrounding area the noise levels recorded at the receptor were used in predicted noise assessment. On the basis of the NG4 Guidelines the area around the noise sensitive location NSL is designated as normal noise environment with a recommended daytime noise limit of $55L_{Aeq,T}$ dB(A).

The maximum increase in traffic associated with the proposed development is predicted to increase (based on worst case scenario) by 4 light vehicle movements and 5 HGV movements per day. Due to the low traffic volumes on the access laneway it is difficult to accurately predict noise impact. However, based on the Calculation of Road Traffic Noise (CRTN - ISBN 0 11 550847 3) it is predicted that the noise climate at the closest noise sensitive receptor would increase by approximately 1.2 dB related to the increase in traffic movements which is considered very minor. This barely perceptible increase would only be experienced during daytime operations and there would not be expected to be any increase during night time period because the site will be closed.

The main noise contribution from the proposed development on noise sensitive receptors in the vicinity of the Miltown facility would be mainly due to intermittent traffic movement related to deliveries to and from the site. Due to the distance of the compost facility buildings from the closest noise sensitive receptor (approximately 900 meters). The only additional equipment that may be installed will be aeration beds in sheds 2 and 3 which will require additional fans. However, the fans will be located close to ground level and will be screened from the closest noise sensitive receptor by the building structures and natural vegetation screening. Based on the site screening it is not considered that the proposed development site operations would impact on the noise climate of any noise sensitive receptors in the area.

D.1.3. Waste

The facility is designed to consistently produce a Class 1 or Class 2 compost and/or stabilised biowaste. Class 1 and Class 2 compost is not categorised as a waste and can be used for agricultural, horticultural, and gardening purposes. The stabilised biowaste is currently used as landfill cover and for other suitable engineering/restoration applications as may be approved by the Agency. The oversized materials recovered during the pre and post screening of the materials are stored on site and depending on their nature may either be added to the bulking agents used in subsequent composting batches or sent off-site for disposal/recovery. Milltown Composting is investigating potential alternative recovery outlets for this material. The facility generates small volumes of wastes from the canteen and office and Milltown Composting operates a source segregation policy to maximise the recovery of potential recyclable and compostable materials from these waste streams. There is also plastic material from the screening process that is sent off site for recovery and metals removed by a magnet system for recycling off site.

The site production does not produce significant waste materials but the process is monitored to ensure that waste production is minimised where possible. Wastes are produced from areas such as mobile plant on-site maintenance. Waste oils and batteries generated during maintenance are stored in the bunded area of the reception building pending removal off-site for disposal/recovery at appropriately permitted licensed treatment/recovery facilities. Materials are recovered or recycled where possible. The oil interceptor on the surface water drainage system will be routinely desludged and if no light liquid is visible on the surface of the oil interceptor the sludge is reused in the composting process. However, if light liquid is within 50 mm from the bottom of the coalescer filter the sludge is removed off-site by a licensed contractor for disposal at an appropriately licensed waste treatment/disposal facility.

Milltown Composting only uses appropriately licensed or permitted waste disposal/treatment facilities for all wastes generated at the facility. All wastes leaving the facility are weighed at the on-site weighbridge and Milltown Composting retains records of the waste types (EWC codes), volumes (tonnes) and the destination.

The existing waste licence for the Milltown facility has a maximum annual acceptable tonnage of 24,500 tonnes of organic waste that can be accepted and composted on site, the proposed increased tonnage to 50,000 will still consist of the same materials currently accepted for treatment at the facility, see Attachment 2.

E. PREVENTATIVE MEASURES

There are a number of preventative and control measures in place at the Milltown facility to be taken against potential pollution impacts from the facility. The main emissions from the facility that could impact the environment are considered to be surface water, air and noise.

E.1. Surface Water

In the event of an emergency (e.g., spillage) the surface water drainage system for the turntable where trucks reverse into the waste reception area will have a diversion system in place to divert the surface water flow from that area to the leachate collection and circulation system if required in the event of an emergency spillage or release at the turntable area. During normal operations surface water from that area will drain to a grated silt trap gully which will then be directed via a 150mm PVC pipework beneath the new reception area to the existing silt trap and oil interceptor to the south of the new

reception building. Once the surface water passes through the interceptor it will pass through the diversion gulley and through the existing 150mm piping across the internal site roadway to the south and then in a southwest direction to the surface water drainage ditch. A diversion pipeline with a lockable valve has been installed at the access to the new reception area so that in the event of a spillage at the turntable area, site personnel will be able to divert potentially contaminated surface water to the leachate collection system by changing the installed lockable valve from the leachate line to the storm water line.

In addition to the above the following measures are in place on site:

- The facility has a concrete bunded floor in place within the process facility which results in no process discharge to sewer or surface water drains that could potentially impact sensitive receptors. This mitigation measure will continue for all future operations and no outputs to septic or surface water drains from inside the facility will take place.
- All operations will continue to take place within the facility sheds with no tonal noise output from the building.
- Rodent control will be restricted to inside the facility building and in appropriately designed receptacles to avoid potential for other fauna to be affected by potential ingestion of poisons used for controlling vermin.
- Refuelling of machinery, will be carried out on concrete surfaced designated areas that are drained to an oil/water separator system.
- An emergency response plan will be followed to deal with any emergency that has the potential to impact on protected species or habitats.

E.2 Air

The main perceived nuisance associated with the development may be odour. The aspiration system for the facility was augmented to provide aspiration to the extended enclosed reception area and new process bay located inside the reception building by extending the ductwork into the new structure.

The new reception building has been added to the existing air extraction system and exhausted through the existing biofilter. In order to meet the requirements of the current 'Draft BAT Conclusions specific to indoor composting for Vessel or enclosed building design - Air extraction should be designed and maintained to move and handle the volume of air to provide a clear working environment. The atmosphere inside the new reception building is exhausted at 2.5 Air Changes per hour, this will require the increased air volume (total calculated at 44,270 m³ – see Table 1) to be treated in the biofilter with a residence time of 40 seconds. Based on the increased air volume to be treated and the proposed residence time it has required the total media depth of the biofilter to be 950mm, see Table below.

Biofilter Increased Volume Required to Treat Increased Air Volume from Additional Areas

	Length (m)	Width (m)	Depth (m)	Volume (m ³)	Residence Time (secs)
Current Biofilter Volume	13	40	0.8	416	
Shed 1 Volume				12,935.32	
New Reception Shed Volume				4,773	
Total Volume of Sheds				17,708.32	

Total Volume at 2.5 air changes per Hour Loading Rate <100m ³ /hr/m ³ of Filter Media				44,270	
Increased Biofilter Volume (m ³)	13	40	0.95	494	
Air Volume Throughput at Biofilter (m ³ /sec)				12.29722	
Residence Time in Biofilter Media (seconds)					40.17

The increased air volume requiring treatment resulted in a requirement to increase the treatment media (wood chip) volume within the Biofilter which was achieved by placing 150mm of additional media on top of the existing filter and extending the height of the perimeter walls by 150mm to contain the additional media. To maintain the proposed aspiration rate in the new reception area an additional loading of approximately 30% additional air volume will be required to pass through the biofilter, the odour loading from the reception building is significantly less than the odour loading from the air extracted from Shed 1 where air is forced through the composting material in the processing bays and exhausted through the extraction ductwork.

The ducting system is currently arranged with two (2) 900 mm ducts from the fan at the biofilter to the centre of the roof of shed 1 with one duct directed towards the east of the shed with nine (9) inlet grills, the other duct is directed west and has six (6) inlet grills. The air control within the new reception building is through an extension to the west side ducting into the new reception area and fitting 3 additional extraction grills on the extended section. The ducting system is balanced by inlet grills on each of the air inlets. It is proposed to utilize the existing air fan to extract the full air load capacity. The motor on the existing fan is fitted with variable speed controller which controls the air volume extracted from the building.

E.3 Noise

The current operations are not considered to be having an impact on the surrounding area or on noise sensitive receptors. However, with an increased throughput at the Miltown facility a number of controls and preventative measures will be put in place to ensure minimal noise nuisance at the site. The proposed measures are outlined below:

- There will be an increase of five truck movements per day which will be spread over the whole day to ensure that the noise impacts are spread over the day to ensure a minimal effect on the noise sensitive receptors surrounding the Miltown facility
- All machinery at the Miltown facility will have frequent maintenance carried out to ensure that the machinery is operating optimally and not emitting at a high noise output.
- With the increased levels of traffic owing to the increase of throughput at the facility, Miltown will ensure that no queuing of incoming lorries will occur on the laneway to prevent the noise emitted from the lorries effecting noise sensitive receptors in the vicinity
- Miltown will ensure that there are no deliveries or transfer of material off site occurring outside of the operational hours of the facility
- It will be advised by Miltown that the trucks arriving and leaving the facility avoid using air brakes to reduce the potential noise emitted from their movements
- During operational activities occurring at the facility, all doors will be closed to ensure that no unnecessary noise emissions occur

The proposed development is for the increased throughput at the existing compost facility. The process operation will generally require the use of the same operations and process equipment that is currently in use at the site, with the exception of some additional aeration fans for sheds 2 and 3. As is the case with the existing facility, there will be limited noise generated during the operational phase of the proposed development that could impact the closest noise sensitive receptors in the vicinity of the composting facility. All process equipment (i.e., front loaders and screeners) will be located inside the process building and noise impacts will be contained, to a large extent, within the process building as is the case with the existing facility.

F. SITE OPERATION CESSATION

In the case of the Miltown Composting site in Miltownmore, Fethard there is no landfill or historical large heavy industrial activity on site, and no groundwater or soil contamination has been recorded on the site since commencement of operations. If the facility was to cease operations it would be considered that the controls currently in place on the site and the available monitoring data for the facility would demonstrate that there are no outstanding environmental issues associated with the site and that a clean closure could be achieved. As such a Decommissioning and Materials Management Plan (DMP) is appropriate for the site.

Miltown Composting proposes to manage and execute the DMP using internal resources, supplemented as necessary and appropriately by external resources. All external resources used for decontamination, decommissioning, facility cleaning, waste disposal and transport will be fully approved and licensed as appropriate. A decommissioning management team will be assigned to manage and execute the entire project and key activities will be supervised by personnel with appropriate experience and expertise. Only qualified personnel will carry out decommission works. Options that will be used to manage the various residuals that will arise as follows;

Reuse

Any facility items that can be removed from the site for reuse at other or similar facilities will be and if not then they will be returned to the supplier where possible;

Recovery/Recycling

Any facility items that can be recovered or recycled will be sold to a third party or by agreeing transport costs with the third party;

Disposal

The final option, and last resort, will be to dispose of plant items as waste.

Wastes sent offsite for recovery, recycling or disposal will only be transported by appropriately permitted waste contractors and will be transported from the facility to the destination site in a manner that will not adversely affect the environment.

F.1 Decommission Programme

Once site closure is instigated the DMP will be activated. Site management will be responsible for ensuring an orderly cessation of production at the facility. The plan will be effectively carried out by following a specific sequence of activities. These activities will include.

- Termination of all relevant deliveries incoming deliveries to the facility
- Termination of all contracts other than those concerned with the DMP.

- Processing of all existing onsite waste materials until all onsite waste has been processed and removed from the facility.
- Return of materials to suppliers where possible, for resale or reuse
- Draining and cleaning of residue from oil tanks and cleaning and blanking of oil lines
- Removal of remaining raw materials
- Cleaning and decontamination of plant and equipment
- Cleaning decontamination and inspection of bunds, sumps and drainage system
- Isolation and disconnection of electrical supplies
- Maintenance of site drainage system and oil interceptors during decommissioning activities
- Secure archiving of all relevant documents including drawings, instrumentation diagrams, validation documentation, vendor manuals, project files, maintenance records, inspection records, material transfer records, waste disposal records
- Final structural decommissioning
- Provision of site security

F.2 Plant and Equipment Decontamination Requirements

An assessment of the level of contamination will be made for residues with waste, leachate and any liquid effluents. All contaminants will be removed drained or flushed from all relevant plant, tanks and pipelines and wash water containing residues of waste, leachate and other contaminants will be removed off site for recovery or disposal. All building structures, tanks, pipelines, plant and surfaces will be hosed down or flushed out with high pressure water to decontaminate them where necessary.

It is anticipated that any necessary decontamination of plant and equipment will be carried out on site. It will primarily involve cleaning in place and power washing of internal and external surfaces. Miltown Composting will seek approval from the EPA for any decontamination procedures and monitoring requirements to be employed. The interceptor and tanks will be emptied and cleaned by licensed contractors. A disposal route for all wash waters generated during decontamination will be agreed with the Agency prior to disposal.

F.3 Plant and Equipment Decommissioning Requirements

The composting processing equipment will be valued and sold, relocated or scrapped, depending on the most efficient and cost effective method. Decommission of the fixed plant will be carried out by external subcontractors. All liquids such as leachate etc. will be drained from the process pipework and tanks if required and the plant and equipment will be sold. Drained fluids and absorbent materials used during the plant/equipment decontamination/decommissioning will be disposed or recovered in an appropriate manner. Spare parts, spare equipment and mechanical tools and equipment will be valued and sold along with the main process equipment.

The interceptor will be emptied and cleaned by licensed contractors and the contents disposed of to a licensed site with the agreement of the Agency. The cleaning and disposal dockets will be kept for inspection.

F.4 Demolition

It is not foreseen that there will be any demolition undertaken as part of a closure. It is envisioned that the site buildings will be returned to agricultural sheds following the DMP being implemented at the site.

F.5 Raw Materials, Products and Waste disposal and or Recovery Requirements

General non-hazardous waste from the administration activities will be source separated and transported off site by a licensed waste contractor until all general waste has been removed off-site for recycling, recovery or disposal. Details of general waste sent off site during the decommissioning process will be recorded.

Removal of any remaining hazardous waste (e.g., leachate) will be completed by permitted/licensed subcontractors and delivered to an appropriately licensed recycling/disposal facility

All fuel and process tanks will be emptied, decontaminated and sold when the site is decommissioned. Unused chemicals, gas bottles or fire extinguishers will be returned to the suppliers. In advance of the closure, fuel stocks will be run down in advance of closure.

F.6 Contaminated Land treatment, removal and or disposal

Any areas of ground with visual contamination will be excavated directly for offsite treatment and risk assessments will be carried out to establish the most suitable method of remediation. Sampling and analysis will also be completed to assess the lateral and vertical extent of any contaminated soils, if they are identified.

G. ENVIRONMENTAL EMISSIONS MONITORING

G.1 Monitoring

The intent would be to continue to complete the sampling and monitoring outlined in Schedule C of the existing site licence (Ref. W0270-01), subject to adjustment by the Agency if considered necessary.

G.2 Measures To Comply With Environmental Quality Standards

The Miltown site will continue to operate under and review the site Environmental Management System (EMS) to identify and target areas of potential improvement to reduce environmental impacts as far as possible. The completion of on-going monitoring as required by the site licence and the operation of existing (e.g., leachate recirculation system) and proposed (e.g., ICW for further treatment of surface water emissions) control measures will provide measures to allow the facility to comply with environmental quality standards.

G.3 Protection of Groundwater

According to the GSI the groundwater vulnerability at the site has been designated as extreme. However, the site is not in any groundwater protection zones. Miltown Composting are required to carry out environmental monitoring of groundwater as part of the facility's EPA Waste Licence compliance. The results indicated that the majority of groundwater samples were compliant with the 2010 Groundwater Regulation limits and EPA guideline values. Some elevated concentrations of ammonia were observed but given the surrounding agricultural land use, it is possible that this could be affecting the levels of ammonia in the groundwater.

The measures in place on site to comply with Council Directive 80/68/EEC and 2006/118/EC in relation to the protection of groundwater are outlined below;

- All areas where composting processes are being carried out are concrete paved floors which are enclosed in sheds, this includes storage areas. The main threat to groundwater is from leachate spills, leakages and contaminated surface water runoff. However, the proposed

increase in throughput at Miltown will be completed inside the process sheds where mitigation measures are in place to ensure the protection of groundwater.

- As part of the proposed development, a new containment tank (47.54 m³) was installed as part of the recirculation system at the southwest corner of Shed 1. This tank will be used for the storage and recirculation of potentially contaminated surface water runoff from the ramped waste intake area to ensure that any runoff is directed in a controlled manner to the on-site contaminated water/leachate recirculation system. The impacted water will be used as part of the composting process (dampening the pre-composting bays in Shed 1).
- As part of the revised leachate collection system, collected impacted water will be directed initially to leachate tank 1 in the reception area and then to a new pump/sump tank located south of the amendment storage area, from where it will be pumped to the recirculation tank for recirculation into the process.
- An impermeable surface for the new turntable area for vehicles delivering organic waste to the facility. This also includes the appropriate management of potentially contaminated surface water runoff from this area, which will be directed to the dedicated contaminant/recirculation system and will not allow any discharge to ground.
- To manage any possible spillage risk to ground from the turntable area Miltown will update their Waste Acceptance Procedure, the Cleaning and Hygiene Procedure and the site Emergency Response Procedure.
- All leachate from the process in Shed 1 and the waste reception building will be contained within the site buildings for re-circulation into the composting system, this will negate any potential discharge to ground from the process. As part of the revised leachate/impacted surface water collection system, collected water will be directed initially to leachate tank 1 in the reception area and then to a new pump sump tank located south of the amendment storage area. Depending on the volume of liquid directed to the pump sump tank through the leachate collection system the collected liquid will be manually pumped from the pump/sump tank back up to the filtration system in the pump house for re-circulation to the pre-composting bays. For large volumes of liquid release (i.e., large spill or firewater) automatic pumping will take place to pump any possible initial firewater or major spillage liquid back up the new contaminated water storage tank. This pump/sump tank has a high level liquid alarm which sends a text to the site managers and operators in the event of a problem.
- Installing a new roof and impermeable concrete floor at the waste reception area has reduced the potential for run off of impacted surface water to open ground, where it could potentially migrate to ground and the underlying aquifer.
- All potentially impacted surface water runoff in the reception area will be collected and recirculated back into the process. No water from the reception area will be allowed to migrate from the building.
- All non-impacted surface water will be diverted to the oil/water interceptor and released from there to the surface water drain. It is envisioned by Miltown that this non-impacted water will be released to the Integrated Constructed Wetlands (ICW) onsite, pending EPA approval. The ICW ponds will provide treatment on the non-impacted water to ensure that there are minimal emissions from the facility.

G.4 Transboundary Impacts

Due to the limited nature of the facility it is not considered that the operation will have any impacts over long distances or outside Ireland

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ATTACHMENT 1

BAT GUIDANCE & CONCLUSIONS

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BAT DOCUMENT REVIEW FOR SELECTION OF PROCESSES APPLICABLE TO MSW COMPOST TREATMENT

Title of Document
BAT Guidance Note for Ferrous Metal Processing and the Pressing, Drawing and Stamping of Large Castings where the Production Area exceeds 500 sq m - Aug 2012 - Not Applicable as no metal processing will be completed on the site.
BAT Guidance Note for Ferrous Metal Foundries - Aug 2012 - Not Applicable as the facility is not a Ferrous Metal Foundries
BAT Guidance Note - Waste Sector (Landfill) - Dec 2011 - Applicable as a fraction of the treated compost will be sent to landfill
BAT Guidance Note - Waste Sector (Transfer & Materials Recovery) - Dec 2011 - Applicable as facility will be processing and storing food waste, animal waste for composting
BAT Guidance Note for the Manufacture of Integrated Circuits - Not Applicable as the facilities process consist of composting
BAT Guidance Note for the Initial Melting and Production of Iron & Steel Sector - Not Applicable as the facility is not an Iron or Steel Melting and Production facility
BAT Guidance Note for the Production of Paper Pulp, Paper & Board - Not Applicable as the facility is not a production facility for paper or pulp
BAT Guidance Note for Brewing, Malting & Distilling Sector - Not Applicable as the facility is not a production facility brewing, malting & distilling
BAT Guidance Note for Disposal or Recycling of Animal Carcasses & Animal Waste Sector - Applicable as the facility may be processing animal waste/slurry
BAT Guidance Note for the Animal Slaughtering Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Cement & Lime Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Ceramic & Diamond Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Dairy Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Energy (LCP) Sector - Not Applicable as the facility will not be operating a large combustion plant
BAT Guidance Note for the Fish Meal & Fish Oil Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the General Inorganic & Alumina Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Glass Sector including Glass Fibre - Not Applicable as the facility will not be melting mineral fibres or manufacturing glass.
BAT Guidance Note for the Metals & Plastics Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Non Ferrous Metals & Galvanising Sector - Not Applicable as the facility will not be operating in this sector

<p>BAT Guidance Note for the Oil & Gas Refining Sector - Not Applicable as the facility will not be operating in the oil and gas sector</p>
<p>BAT Guidance Note for the Organic Chemical Sector - Not Applicable as the facility will not be operating in the chemical sector</p>
<p>BAT Guidance Note for the Textiles Processing Sector - Not Applicable as the facility will not be operating in the textiles processing sector</p>
<p>BAT Guidance Note for the Use of Solvents - Not Applicable as the facility will not be using solvents.</p>
<p>BAT Guidance Note for the Vegetable & Animal Raw Materials Sector - Not Applicable as the facility will not be operating in the vegetable and animal raw materials sector</p>
<p>BAT Guidance Note Pesticides, Pharmaceuticals & Speciality Organic Chemicals Sector - Not Applicable as the facility will not be operating in the pesticides, pharmaceuticals and speciality organic chemicals sector</p>
<p>BATNEEC Guidance Note - Board Manufacturing Sector - 1996 - Not Applicable as the facility will not be manufacturing board</p>
<p>BATNEEC Guidance Note - Electroplating Operations - Oct 1996 - Not Applicable as the facility will not be operating in the electroplating operations</p>
<p>BATNEEC Guidance Note - Extraction of Minerals - Nov 1997 - Not Applicable as the facility will not be extracting minerals</p>
<p>BATNEEC Guidance Note - Manufacture of Sugar - Sept 1996 - Not Applicable as the facility will not be operating in the sugar sector</p>
<p>BATNEEC Guidance Note - Manufacture of Synthetic Fibres - Nov 1997 - Not Applicable as the facility will not be manufacturing synthetic fibres</p>
<p>BATNEEC Guidance Note - Manufacture or Use of Coating Materials - Nov 1997 - Not Applicable as the facility will not be manufacturing or use of coating materials</p>
<p>BATNEEC Guidance Note - Pig Production Sector - Feb 1998 - Not Applicable as the facility will not be in the pig production sector</p>
<p>BATNEEC Guidance Note - Poultry Production Sector - Feb 1998 - Not Applicable as the facility will not be in the poultry production sector</p>
<p>BATNEEC Guidance Note - Waste Sector (IPPC) - May 1996 - Not Applicable as the facility will not be incinerating waste or using heat to manufacture a fuel from waste. The facility will be used for the aerobic treatment of BMW by composting</p>
<p>BATNEEC Guidance Note - Wood Treatment and Preservation - Nov 1997 - Not Applicable as the facility will not treating or preserving wood</p>
<p>Draft BATNEEC Guidance Note - Asbestos Sector - 03/06/96 - Not Applicable as the facility will not be manufacturing or processing asbestos based products.</p>
<p>Draft BATNEEC Guidance Note - Crude Petroleum Handling & Storage - Not Applicable as the facility will not be handling or storing crude petroleum</p>
<p>Draft BATNEEC Guidance Note - Fellmongering & Tanning - 02/04/96 - Not Applicable as the facility will not be fellmongering or tanning leather</p>
<p>Draft BATNEEC Guidance Note - Forges - 15/05/96 - Not Applicable as the facility will not be operating a forge</p>

Draft BATNEEC Guidance Note - Manufacture of Vegetable & Animal Oils and Fats - 05/06/96 - Not Applicable as the facility will not be manufacturing of vegetable & animal oils and fats
Draft BATNEEC Guidance Note - Roasting, Sintering or Calcining - 15/05/96 - Not Applicable as the facility will not be roasting, sintering or calcining of metallic ores in plants
Draft BATNEEC Note - Glass Production - 37/06/96 - Not Applicable as the facility will not be producing glass
Draft BATNEEC Guidance Note - Extraction of Peat - 14/05/96 - Not Applicable as the facility will not be extracting peat
Draft BATNEEC Guidance Note - Organo Tin - 13/10/96 - Not Applicable as the facility will not be coating tin
BATNEEC Note - Chemical Sector - May 1996 - Not Applicable as the facility will not be manufacturing, formulating or storing the listed chemicals at the facility.
Draft BATNEEC Guidance Note - Asbestos, Glass, Mineral Fibre Sector - 20/05/96 - Not Applicable as the facility will not be manufacturing or processing asbestos, asbestos based products or glass fibres
Draft BATNEEC Guidance Note - Carbonation, etc of Coal, etc - 15/05/96 - Not Applicable as the facility will not be carrying out the pyrolysis, carbonisation, gasification, liquefaction, dry distillation, partial oxidation or heat treatment of coal, lignite, oil or bituminous shale, other carbonaceous materials or mixtures of any kind
Draft BATNEEC Guidance Note - Asbestos, Glass & Mineral Fibre Sector - 30/04/96 - Not Applicable as the facility will not be manufacturing or processing asbestos, asbestos based products or glass fibres.
Draft BATNEEC Guidance Note - Manufacture Glass Fibre or Mineral Fibre - 03/07/96 - Not Applicable as the facility will not be manufacturing glass or mineral fibres
Draft BATNEEC Guidance Note - Ferrous Metals - 14/05/96 - Not Applicable as the facility will not be producing, recovering, processing or using ferrous metals in foundries.
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BAT DOCUMENT REVIEW FOR SELECTION OF PROCESSES APPLICABLE TO MSW COMPOST TREATMENT

Title of Document
BAT Guidance Note for Ferrous Metal Processing and the Pressing, Drawing and Stamping of Large Castings where the Production Area exceeds 500 sq m - Aug 2012 - Not Applicable as no metal processing will be completed on the site.
BAT Guidance Note for Ferrous Metal Foundries - Aug 2012 - Not Applicable as the facility is not a Ferrous Metal Foundries
BAT Guidance Note - Waste Sector (Landfill) - Dec 2011 - Applicable as a fraction of the treated compost will be sent to landfill
BAT Guidance Note - Waste Sector (Transfer & Materials Recovery) - Dec 2011 - Applicable as facility will be processing and storing food waste, animal waste for composting
BAT Guidance Note for the Manufacture of Integrated Circuits - Not Applicable as the facilities process consist of composting
BAT Guidance Note for the Initial Melting and Production of Iron & Steel Sector - Not Applicable as the facility is not an Iron or Steel Melting and Production facility
BAT Guidance Note for the Production of Paper Pulp, Paper & Board - Not Applicable as the facility is not a production facility for paper or pulp
BAT Guidance Note for Brewing, Malting & Distilling Sector - Not Applicable as the facility is not a production facility brewing, malting & distilling
BAT Guidance Note for Disposal or Recycling of Animal Carcasses & Animal Waste Sector - Applicable as the facility may be processing animal waste/slurry
BAT Guidance Note for the Animal Slaughtering Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Cement & Lime Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Ceramic & Diamond Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Dairy Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Energy (LCP) Sector - Not Applicable as the facility will not be operating a large combustion plant
BAT Guidance Note for the Fish Meal & Fish Oil Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the General Inorganic & Alumina Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Glass Sector including Glass Fibre - Not Applicable as the facility will not be melting mineral fibres or manufacturing glass.
BAT Guidance Note for the Metals & Plastics Sector - Not Applicable as the facility will not be operating in this sector
BAT Guidance Note for the Non Ferrous Metals & Galvanising Sector - Not Applicable as the facility will not be operating in this sector

BAT Guidance Note for the Oil & Gas Refining Sector - Not Applicable as the facility will not be operating in the oil and gas sector
BAT Guidance Note for the Organic Chemical Sector - Not Applicable as the facility will not be operating in the chemical sector
BAT Guidance Note for the Textiles Processing Sector - Not Applicable as the facility will not be operating in the textiles processing sector
BAT Guidance Note for the Use of Solvents - Not Applicable as the facility will not be using solvents.
BAT Guidance Note for the Vegetable & Animal Raw Materials Sector - Not Applicable as the facility will not be operating in the vegetable and animal raw materials sector
BAT Guidance Note Pesticides, Pharmaceuticals & Speciality Organic Chemicals Sector - Not Applicable as the facility will not be operating in the pesticides, pharmaceuticals and speciality organic chemicals sector
BATNEEC Guidance Note - Board Manufacturing Sector - 1996 - Not Applicable as the facility will not be manufacturing board
BATNEEC Guidance Note - Electroplating Operations - Oct 1996 - Not Applicable as the facility will not be operating in the electroplating operations
BATNEEC Guidance Note - Extraction of Minerals - Nov 1997 - Not Applicable as the facility will not be extracting minerals
BATNEEC Guidance Note - Manufacture of Sugar - Sept 1996 - Not Applicable as the facility will not be operating in the sugar sector
BATNEEC Guidance Note - Manufacture of Synthetic Fibres - Nov 1997 - Not Applicable as the facility will not be manufacturing synthetic fibres
BATNEEC Guidance Note - Manufacture or Use of Coating Materials - Nov 1997 - Not Applicable as the facility will not be manufacturing or use of coating materials
BATNEEC Guidance Note - Pig Production Sector - Feb 1998 - Not Applicable as the facility will not be in the pig production sector
BATNEEC Guidance Note - Poultry Production Sector - Feb 1998 - Not Applicable as the facility will not be in the poultry production sector
BATNEEC Guidance Note - Waste Sector (IPPC) - May 1996 - Not Applicable as the facility will not be incinerating waste or using heat to manufacture a fuel from waste. The facility will be used for the aerobic treatment of BMW by composting
BATNEEC Guidance Note - Wood Treatment and Preservation - Nov 1997 - Not Applicable as the facility will not treating or preserving wood
Draft BATNEEC Guidance Note - Asbestos Sector - 03/06/96 - Not Applicable as the facility will not be manufacturing or processing asbestos based products.
Draft BATNEEC Guidance Note - Crude Petroleum Handling & Storage - Not Applicable as the facility will not be handling or storing crude petroleum
Draft BATNEEC Guidance Note - Fellmongering & Tanning - 02/04/96 - Not Applicable as the facility will not be fellmongering or tanning leather
Draft BATNEEC Guidance Note - Forges - 15/05/96 - Not Applicable as the facility will not be operating a forge

Draft BATNEEC Guidance Note - Manufacture of Vegetable & Animal Oils and Fats - 05/06/96 - Not Applicable as the facility will not be manufacturing of vegetable & animal oils and fats
Draft BATNEEC Guidance Note - Roasting, Sintering or Calcining - 15/05/96 - Not Applicable as the facility will not be roasting, sintering or calcining of metallic ores in plants
Draft BATNEEC Note - Glass Production - 37/06/96 - Not Applicable as the facility will not be producing glass
Draft BATNEEC Guidance Note - Extraction of Peat - 14/05/96 - Not Applicable as the facility will not be extracting peat
Draft BATNEEC Guidance Note - Organo Tin - 13/10/96 - Not Applicable as the facility will not be coating tin
BATNEEC Note - Chemical Sector - May 1996 - Not Applicable as the facility will not be manufacturing, formulating or storing the listed chemicals at the facility.
Draft BATNEEC Guidance Note - Asbestos, Glass, Mineral Fibre Sector - 20/05/96 - Not Applicable as the facility will not be manufacturing or processing asbestos, asbestos based products or glass fibres
Draft BATNEEC Guidance Note - Carbonation, etc of Coal, etc - 15/05/96 - Not Applicable as the facility will not be carrying out the pyrolysis, carbonisation, gasification, liquefaction, dry distillation, partial oxidation or heat treatment of coal, lignite, oil or bituminous shale, other carbonaceous materials or mixtures of any kind
Draft BATNEEC Guidance Note - Asbestos, Glass & Mineral Fibre Sector - 30/04/96 - Not Applicable as the facility will not be manufacturing or processing asbestos, asbestos based products or glass fibres.
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Table I.8 – Conclusions on BAT

Title of Document Waste Sector (Transfer & Materials Recovery) - Dec 2011			
BAT Ref.	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
4.1.2	Key Issues For Waste Transfer And Materials Recovery Facilities		
4.1.2.1	Site Location	Applicable	In Place – The facility buildings are located in an existing industrial building with no immediate domestic sensitive receptors. Facility is enclosed with no discharge of surface or process water from inside the facility.
4.1.2.2	Design Considerations	Applicable	In Place – Waste deposit and composting operations inside process building.
4.1.2.3	Decommissioning	Applicable	In Place - As part of the application a Residuals Management Plan was prepared for the site. Proposed – Scheduled updates on RMP to take changing conditions into account.
4.1.3	Environmental Management System (EMS)	Applicable	Proposed – EMS exists as part of existing waste licence.
4.1.4	Waste Acceptance	Applicable	In Place – Current SOPs in place for acceptance and rejection of wastes at the facility. Only wastes that are allowed under the current waste licence are allowed to be accepted on site.
4.1.4.1	Waste Acceptance Procedures	Applicable	In Place – Current SOPs in place for acceptance and rejection of wastes at the facility. .
4.1.5	Waste Dispatch	Applicable	In Place – SOPs for stored material and shipping
4.2	Risk to the Environment		
4.2.1	Potential Emissions to Air		
4.2.1.1	Inert Waste Transfer and Materials Recovery Facilities	Not Applicable	No Inert Waste on site
4.2.1.2	Non-Hazardous Waste Transfer and Materials Recovery Facilities	Applicable	In Place - odour assessment at the facility is completed as part of the site waste licence conditions.
4.2.1.3	Hazardous Waste Transfer and Materials Recovery Facilities	Not applicable	No hazardous waste will be accepted or stored at the facility
4.2.1.4	Clinical Waste Transfer and Materials Recovery Facilities	Not applicable	No clinical waste will be accepted or stored at the facility
4.2.2	Potential Emissions to Water (including Groundwater) and Land		
4.2.2.1	Inert Waste Transfer and Materials Recovery Facilities	Not applicable	

BAT Ref.	BAT Statement	Applicability	State technique and whether it is in place or proposed for implementation
4.2.2.2	Non-Hazardous Waste Transfer and Materials Recovery Facilities	Applicable	In Place – There are no floor drains within the facility that discharge to either surface water or sewer. The impermeable concrete floor prevents discharge to land or groundwater. Leachate discharge from the composting process or the new reception building are directed to the leachate re-circulation system.
4.2.2.3	Hazardous Waste Transfer and Materials Recovery Facilities	Not applicable	No Hazardous Waste on site
4.2.2.4	Clinical Waste Transfer and Materials Recovery Facilities	Not applicable	No Clinical waste on site
4.3	Control Techniques		
4.3.1	Techniques for Prevention and Minimisation of Resource Consumption		
4.3.1.1	Use of Energy	Applicable	In Place – Energy usage is assessed on an annual basis as part of the waste licence conditions for the site.
4.3.1.2	Raw Materials	Not applicable	In Place - All material arriving at the site are non-hazardous waste and are controlled by the existing waste acceptance and handling SOPs.
4.3.2	Techniques for the Prevention and Minimisation of Emissions		
4.3.2.1	Minimisation of Emissions to Air	Applicable	In Place – A biofilter system is in place at the site to treat process air from the composting bays. The extension of the biofilter volume allows for potentially odorous air within the new reception building to be directed to the biofilter for treatment. Miltown will continue to monitor emissions in compliance with their waste licence to ensure that they meet regulatory limits or guidelines.
4.3.2.2	Minimisation of Emissions to Water	Applicable	In Place - There are no discharges from inside the process building to surface water or sewer. Only discharge is to surface water from shed roofs. The leachate re-circulation system controls all potentially impacted water emissions in the process buildings. Miltown will continue to monitor emissions in compliance with their waste licence to ensure that they meet regulatory limits or guidelines.

BAT Ref.	BAT Statement	Applicability	State technique and whether it is in place or proposed for implementation
4.3.2.3	Fuel/Oil	Applicable	In Place - Fuel storage takes place in a double skinned tank located in a dedicated bunded area at the entrance to the new reception building. All re-fuelling will take place on hard standing at the building entrance to ensure that any spillages can be managed and cleaned immediately. An oil water separator unit exists on the surface water drainage system to remove any residual oil or fuel that may enter the surface water system.
4.3.3	Minimisation of Nuisances		
4.3.3.1	Litter/Housekeeping	Applicable	In Place - All material arriving on site is in closed trailers. Facility personnel complete daily checks at the access road to the facility and in the immediate environs to check for litter. Operations inside the shed are controlled and housekeeping is assessed daily.
4.3.3.2	Noise & Vibration	Applicable	In Place - All process equipment remains inside the facility building to reduce potential nuisance to sensitive receptors. Noise monitoring will continue to be completed as part of the existing site licence conditions to ensure that noise nuisance is not an issue from the site.
4.3.3.3	Vehicles``	Applicable	Proposed – Assessment of fuel consumption and air emissions from on-site equipment and review of potential improvements.
4.3.3.4	Mud	Applicable	In Place - The site is mainly concreted and gravel surface with very little potential for mud on the site.
4.3.3.5	Vermin and Insects	Applicable	In Place – The facility has a vermin control contractor employed to install and regularly service vermin control measures on site.
4.3.3.6	Chemical Storage	Not Applicable	Only small volumes of cleaning chemicals held on site There will be no discharge to the environment of the chemicals
4.3.3.7	Infection Control	Not Applicable	There will be no clinical waste at the facility

BAT Ref.	BAT Statement	Applicability	State technique and whether it is in place or proposed for implementation
5	Best Available Techniques For Waste Sector: Waste Transfer And Materials Recovery		
5.1	Primary Requirements: An EMS that incorporates the following features: <ul style="list-style-type: none"> • Management and Reporting Structure. • Schedule of Environmental Objectives and Targets. • Annual Environmental Report (AER). • Environmental Management Programme (EMP). • Documentation System. • Corrective Action Procedures. • Awareness and Training Programme. • Communications Programme. • Waste acceptance procedure. • Waste management system for all incoming wastes and wastes on-site. • Appropriate storage and handling. • Wastewater management. • For hazardous waste transfer, the use of an extractive vent system linked to abatement equipment where applicable. • The provision of an impermeable surface across all areas of the facility where waste is handled and stored, with kerbing or sloping to protect any adjacent permeable areas. • The minimisation of underground tanks and pipework. 	Applicable	In Place - As part of the existing Waste Licence all aspects of the required EMS system have been developed to encompass all aspects of environmental controls on site.
5.2	Emissions to Air	Applicable	In Place – Existing biofilter system on site
5.3	Emissions to Water		
5.3.1	Discharge to Surface Water	Applicable	In Place - There are no discharges from inside the process building to surface water. Only discharge is to surface water from shed roofs and outside yard areas. Surface water discharges are directed to a silt trap and oil/water separator system prior to discharge from the site. All leachate produced in the process buildings are directed to the closed leachate control system where it is re-circulated back into the process bays and not discharged from the site.
5.3.2	Discharge to Sewer/by tanker to sewer	Not Applicable	There are no discharges from the site to sewer.

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BAT Ref.	BAT Statement	Applicability	State technique and whether it is in place or proposed for implementation
5.3.3	Discharge to Groundwater	Applicable	In Place – Existing impermeable concrete floor in reception building, at reception building ramp and inside the composting and maturation buildings eliminates discharge to groundwater from the facility. Proposed – On-going inspections of floor condition to ensure no cracks or breaks that could provide potential pathway.
5.3.4	Noise	Applicable	In Place - All process equipment remains inside the facility building to reduce potential nuisance to sensitive receptors. Noise monitoring will continue to be completed as part of the waste licence compliance to ensure that nuisance is not an issue from the site.
6	BAT Associated Emission Levels		
6.1	Emission Levels for Discharges to Water	Applicable	In Place - Any surface water discharge will be assessed with relation to the European Communities Environmental Objectives (Surface Water) Regulations, 2009.
6.2	Emission Levels for Discharges to Sewer	Not Applicable	No discharge to sewer
6.3	Emission Levels For Discharges To Air		
6.3.1	Establishing Emission Limit Values	Not applicable	In Place – ELVs set in Waste Licence for the site
6.3.2	Fugitive Air Emissions	Applicable	In Place – ELVs for dust deposition set in Waste Licence for the site
6.3.3	Odour Emissions	Applicable	In Place – ELVs for odorous compounds set in Waste Licence for the site Ongoing odour monitoring is completed at boundary locations and nearest odour sensitive receptor locations.
7	Compliance Monitoring		
7.1	Monitoring Guidance		
7.2	Monitoring Of Emissions To Air	Applicable	In Place - Odour monitoring to be completed with reference to Air Guidance Note 5 (AG5) at boundary locations and/or nearest odour sensitive receptor locations.
7.3	Monitoring Of Aqueous Emissions	Not applicable	There will be no aqueous emissions as the leachate will be re-circulated in the closed leachate control system.
7.4	Monitoring Of Emissions To Groundwater	Applicable	In Place - Groundwater monitoring is completed as part of the Waste Licence Compliance Conditions.
7.5	Monitoring Of Wastes	Applicable	In Place - Waste entering the site is recorded on the weighbridge records as per SOP
7.6	Monitoring Of Noise Emissions	Applicable	In Place - Noise monitoring is carried out in accordance with the Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4), 2012, at a frequency as specified by the Agency

Title of Document BREF on Emissions from Storage (07.06)			
BAT Ref.	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
5.3.1	Open storage		
	BAT is to apply enclosed storage by using, for example, silos, bunkers, hoppers and containers, to eliminate the influence of wind and to prevent the formation of dust by wind as far as possible by primary measures. See Table 4.12 for these primary measures with cross-references to the relevant sections.	Not Applicable	The feedstock and compost material are stored inside facility buildings.
5.3.2.	Enclosed storage		
	BAT is to apply enclosed storage by using, for example, silos, bunkers, hoppers and containers. Where silos are not applicable, storage in sheds can be an alternative.	Applicable	In Place - The feedstock and compost material is stored in facility Buildings. Floor of process shed and new waste reception building have impermeable concrete floors and will not allow any leaks or spills to migrate outside the facility buildings.
5.3.3	Storage of packaged dangerous solids	Not Applicable	No dangerous solids will be stored on the facility. The facility will be used to process and store RDF.
5.3.4	Preventing incidents and (major) accidents		
	BAT in preventing incidents and accidents is applying a safety management system	Applicable	In Place - An accident prevention plan and incident procedure are in place as part of the site licence.
5.4	Transfer and handling of solids		
5.4.1	General approaches to minimise dust from transfer and handling		
	BAT is to prevent dust dispersion due to loading and unloading activities in the open air, by scheduling the transfer as much as possible when the wind speed is low. However, and taking into account the local situation, this type of measure cannot be generalised to the whole EU and to any situation irrespective of the possible high costs.	Not Applicable	All loading and unloading of feedstock and composted material takes place inside the facility buildings to minimise the escape of dust and litter.

Title of Document BREF for Energy Efficiency (02.09)			
BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
4.2.1	Energy efficiency management	Applicable	In Place – Assessment of the energy consumption and efficiency is completed on an annual basis at the site as part of the waste licence compliance conditions.
	BAT is to implement and adhere to an energy efficiency management system (ENEMS)		In Place – Miltown complete an energy efficiency assessment as part of the licensing requirements to determine where energy savings could be achieved.
4.2.2.1	Continuous environmental improvement		
	BAT is to continuously minimise the environmental impact of an installation by planning actions and investments on an integrated basis and for the short, medium and long term, considering the cost benefits and cross-media effect		In Place - The implementation of Objectives and targets within the EMS system ensure that continuous improvement is central to the environmental management of the facility.
Title of Document BREF for the Waste Treatment Industries (08.06)			
	Environmental management 1. environmental management systems 2. provision of full details of the activities carried out on-site 3. having a good housekeeping procedure in place 4. having a close relationship with the waste producer/customer 5. the availability of qualified staff	Applicable	In Place - SOPs (Standard Operation Procedures) are in place and included within the application An EMS has been developed for the site as part of the licence compliance conditions.
	Improve the knowledge of the waste input		
6	having a concrete knowledge of the waste input	Applicable	In Place - All companies delivering material to the facility have specific contracts for delivering specific waste types based on the EWC Code material acceptable at the facility.
7	implementing a pre-acceptance procedure	Applicable	In Place - All companies delivering material to the facility have specific contracts for delivering specific waste types based on the EWC Code material acceptable at the facility.
8	implementing an acceptance procedure	Applicable	In Place - A waste acceptance procedure has been developed for the site and included in the application.
9	implementing different sampling procedures	Not Applicable	Only waste materials included in the waste licence will be accepted
10	having a reception facility	Applicable	In Place – New Reception building exists at facility

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BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
	Waste output		
11	analysing the waste output	Applicable	Waste/compost is analysed prior to shipment to final destination.
	Management systems		
12	the traceability in waste treatment	Not Applicable	Given the nature of the wastes accepted and the types of processing carried out, traceability of waste treatment is not required
13	mixing/blending rules	Applicable	In Place - Given the nature of the wastes accepted there may be a requirement for blending with a bulking agent to ensure that the proper C:N ratio is achieved for optimum composting conditions.
14	segregation and compatibility procedures	Applicable	In Place – Any non-compatible waste will be transferred to quarantine area.
15	the efficiency of waste treatment	Applicable	In Place – All composting bays are monitored on an on-going basis to ensure they are operating to an optimum level. Logging of waste batches allows management to track the efficiency of each batch processed.
16	accident management plan	Applicable	In Place – Miltown have prepared an accident management plan for the facility as part of their waste licence.
17	incident diary	Applicable	In Place – Incident diary for recording incidents is held in facility office.
18	noise and vibration management plans	Not Applicable	Noise and vibration are not considered an issue at the facility
19	decommissioning	Applicable	In Place – Residuals Management Plan and ELRA completed for site.
	Utilities and raw material management		
20	energy consumption and generation	Applicable	In Place – Miltown complete an energy efficiency assessment as part of the licensing requirements to determine where energy savings could be achieved.
21	energy efficiency	Applicable	In Place – Miltown complete an energy efficiency assessment as part of the licensing requirements to determine where energy savings could be achieved.
22	internal benchmarking	Applicable	In Place – Benchmarking completed to compare year on year consumption.
23	the use of waste as a raw material plans	Not Applicable	The waste material cannot be used as a raw material in the process.
	Storage and handling		
24	generic storage techniques	Applicable	In Place - As part of the site EMS an SOP has been developed for waste acceptance/handling and storage

BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
(a)	to ensure storage areas are away from watercourses and sensitive perimeters, and located to eliminate or minimise the double handling of wastes within the installation	Applicable	In Place - Facility is located within a facility building with an impermeable concrete floor and berms around the doors to prevent any migration from the building floor.
(b)	to ensure that the storage area drainage infrastructure can contain all possible contaminated run-off and that drainage from incompatible wastes cannot come into contact with each other	Applicable	In place. Surface water run-off generated from inside the facility is directed to the closed leachate re-circulation system.
(c)	to ensure use of a dedicated area/store equipped with all necessary measures related to the specific risk of the wastes for sorting and repackaging laboratory smalls or similar waste.	Not Applicable	No lab waste on site
(d)	to handle odorous materials in fully enclosed or suitably abated vessels and storing them in enclosed buildings connected to abatement	Applicable	In place – Process Buildings connected to biofilter abatement system.
(e)	to ensure that all connections between the vessels are capable of being closed via valves.	Not Applicable	No waste liquids accepted on site
(f)	to ensure measures are available to prevent the building up of sludges higher than a certain level and the emergence of foams that may affect such measures in liquid tanks,	Not Applicable	No sludges or foams produced on site
(g)	equipping tanks and vessels with suitable abatement systems when volatile emissions may be generated.	Not Applicable	No volatile emissions from storage on site
(h)	to store organic waste liquid with a low flashpoint under a nitrogen atmosphere to keep it inertised	Not Applicable	No organic liquid with low flashpoint on site
25	to separately bund the liquid decanting and storage areas using bunds which are impermeable and resistant to the stored materials	Applicable	In-Place – Bunding around the fuel tank located in New Reception Building.
26	Tank and Process Pipework	Not Applicable	There are no tanks or associated pipework on site. With the exception of ducting for air input / exhaust and the leachate recirculation to the of water.
27	to take measures to avoid problems that may be generated from the storage/accumulation of waste	Applicable	Proposed –Storage plan to be developed for inside the facility as part of licence compliance.

BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
28	generic handling techniques		
(a)	to have systems and procedures in place to ensure that wastes are transferred to the appropriate storage safely.	Applicable	In Place – Waste Handling SOP
(b)	to have a management system for the loading and unloading of waste in the installation, which also takes into consideration any risks that these activities may incur.	Applicable	In Place – Waste Handling SOP and Accident Prevention Policy as part of licence.
(c)	to ensure that a qualified person attends the site to check the laboratory smalls, the old original waste, waste from an unclear origin or undefined waste (especially if drummed), to classify the substances accordingly and to package into specific containers.	Not Applicable	No Lab waste accepted at site
(d)	to ensure that damaged hoses, valves and connections are not used	Not Applicable	No liquid waste stored on site
(e)	to collect exhaust gas from vessels and tanks when handling liquid waste	Not Applicable	No liquid waste stored on site
(f)	to unload solids and sludge in closed areas which are fitted with extractive vent systems linked to abatement equipment when the handled waste can potentially generate emission to air (e.g. odours, dust, VOCs)	Applicable	In Place – Reception and Process buildings linked to biofilter abatement system.
(g)	to use a system to ensure the bulking of different batches only takes place with compatibility testing	Not Applicable	Based on the types of wastes accepted on site there will be no need for compatibility testing.
29	to ensure that the bulking /mixing to or from packaged waste only takes place under instruction and supervision and is carried out by trained personnel	Applicable	In place - All waste handling is completed by experienced personnel.
30	to ensure that chemical incompatibilities guide the segregation required during storage	Not applicable	No chemical wastes accepted on site.
31	the techniques to handle containerised waste	Not Applicable	No containerisation of wastes in drums or containers

BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
	Other common techniques not mentioned before		
32	32. using extractive vents during crushing, shredding and sieving operations.	Applicable	Proposed - The proposed development will include some sieving of material following composting remove impurities. A review of required extractive venting etc. will be assessed if required.
33	encapsulating the crushing and shredding of special waste	Not Applicable	No crushing or shredding of special waste completed on-site
34	washing processes		
(a)	to identify the components that may be present in the items to be washed (e.g. solvents)	Not Applicable	No wash water discharge from site
(b)	to transfer washings to appropriate storage and then treating them in the same way as the waste from which they were derived	Not Applicable	Wash water will be transferred to leachate collection system.
(c)	to use treated waste water from the WT plant for washing instead of fresh water	Not Applicable	Wash water will be transferred to leachate collection system.
	Air emission treatments		
35	to restrict the use of open topped tanks, vessels and pits	Not Applicable	No pits tanks or vessels on site
36	to use an enclosed system with extraction, or under depression, to a suitable abatement plant. This technique is especially relevant to processes which involve the transfer of volatile liquids, including during tanker charging/discharging	Not Applicable	No volatile liquids handled on site
37	to apply a suitably sized extraction system which can cover the holding tanks, pre-treatment areas, storage tanks, mixing/reaction tanks and the filter press areas, or to have in place a separate system to treat the vent gases from specific tanks	Not Applicable	No holding/pre-treatment tanks or storage tanks on site, with the exception of a small fuel tank and water tanks.
38	to correctly operate and maintain the abatement equipment, including the handling and treatment /disposal of spent scrubber media.	Applicable	In Place - The main air emission from the facility is considered to be nuisance odour. The installation and monitoring of effectiveness of the biofilter abatement system is completed as part of the waste licence compliance conditions

BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
39	to have a scrubber system in place for the major inorganic gaseous releases from those unit operations which have a point discharge for process emissions	Not Applicable	The facility will not produce major inorganic gaseous releases
40	to have leak detection and repair procedures in place in installations a) handling a large number of piping components and storage and b) compounds that may leak easily and create an environmental problem	Not Applicable	The site does not handle a large number of piping components or use compounds that leak easily
41	to reduce air emission to the following levels VOC 7-20mg/Nm ³ and PM to 2-20mg/Nm ³	Not Applicable	The site does not have point emission sources for either VOC or PM
	Waste water management		
42	Reduce the water use and the contamination of water	Applicable	In Place – Re-circulation of leachate from the process and re-use reduces freshwater usage and controls contaminated water.
(a)	to apply site waterproofing and storage retention methods.	Applicable	In Place – facility is located in covered shed buildings
(b)	to carry out regular checks of the tanks and pits especially when they are underground	Not Applicable	No pits or underground tanks on site
(c)	to apply separated water drainage according to the pollution load (roof water, road water, process water)	Applicable	In Place – no process water discharge (re-circulation). Roof water and road water are combined when entering the surface water drainage system.
(d)	to apply a security collection basin	Not Applicable	
(e)	to performing regular water audits, with the aim of reducing water consumption and preventing water contamination	Applicable	In Place - Water usage is very low for process, the water used in the process is harvested from the process buildings roofs. This plus the recirculation of leachate results in very little water requirement from on-site well.
(f)	to segregate process water from rainwater	Not Applicable	No process water discharged from facility
43	effluent specification being suitable for the on-site effluent	Not Applicable	There is no waste water discharged from the facility process.
44	to avoid the effluent by-passing the treatment plant systems	Not Applicable	No Effluent discharged from the site. All leachate is re-circulated

BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
45	to have in place and operate an enclosure system whereby rainwater falling on the processing areas is collected along with tanker washings, occasional spillages, drum washings, etc. and returned to the processing plant or collected in a combined interceptor	Not Applicable	Processing area is inside building. No Rain falling on process area.
46	to segregate the water collecting systems for potentially more contaminated waters from less contaminated water	Not Applicable	In Place – separate leachate collection system for inside the process buildings and surface water collection system for the buildings roofs and outside yard areas.
47	to have a full concrete base in the whole treatment area, that falls to internal site drainage systems which lead to storage tanks or to interceptors that can collect rainwater and any spillage. Interceptors with an overflow to sewer usually need automatic monitoring systems, such as pH checks, which can shut down the overflow	Not Applicable	In Place – Dedicated separate leachate collection system for inside the process buildings.
48	to collect the rainwater in a special basin for checking, treatment if contaminated and further use	Not Applicable	Surface water will only be from roofs and immediate road area. If required sampling of water quality may be completed to assess quality.
49	to maximise the re-use of treated waste waters and use of rainwater in the installation	Applicable	In Place – Rainwater harvesting and leachate recirculation takes place at the facility.
50	to conduct daily checks on the effluent management system and to maintain a log of all checks carried out by having a system for monitoring the effluent discharge and sludge quality in place	Not Applicable	No effluent treatment on site.
51	to firstly identify waste waters that may contain hazardous compounds, secondly segregate the previously identified wastewater streams on-site and thirdly, specifically treat waste water on-site or off-site	Applicable	In Place - Separate leachate collection system for inside the process buildings and surface water collection system for the buildings roofs and outside yard areas.. Only potential hazard that may be discharged would be hydrocarbons in rainwater from road and this is transferred to the on-site oil / water interceptor for removal. All sanitary waste from welfare facilities discharged to on-site septic tank.
52	to ultimately after the application of BAT number 42, select and carry out the appropriate treatment technique for each type of waste water	Applicable	In place - Sanitary waste water is sent to a septic system and leachate is re-circulated within the process.

BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
53	to implement measures to increase the reliability with which the required control and abatement performance can be carried out.	Not Applicable	No on-site water treatment completed.
54	to identify the main chemical constituents of the treated effluent and to then make an informed assessment of the fate of these chemicals in the environment	Not Applicable	No on-site water treatment completed
55	to only discharge the waste water from its storage after the conclusion of all the treatment measures and a subsequent final inspection	Not Applicable	No waste water storage on site.
56	to achieve the following water emission values before discharge Water parameter Emission values associated with the use of BAT (ppm) COD 20 – 120 BOD 2 – 20 Heavy metals (Cr, Cu, Ni, Pb, Zn) 0.1 – 1 Highly toxic heavy metals: As - <0.1 Hg – 0.01 – 0.05 Cd - <0.1 – 0.2 Cr(VI) - <0.1 – 0.4	Not Applicable	No on-site water treatment completed
	Management of the process generated residue		
57	residue management planning		SOPs
58	to maximise the use of reusable packaging (drums, containers, IBCs, pallets, etc.)	Applicable	In Place – materials are reused where possible.
59	to re-use drums when they are in a good working state. In other cases, they are to be sent for appropriate treatment	Applicable	In Place – empty drums are either reused on site or returned to the supplier for reuse.
60	to keep a monitoring inventory of the waste on-site by using records of the amount of wastes received onsite and records of the wastes processed	Applicable	In Place – Miltown have weighbridge documentation on wastes received on site and records of the material shipped from the facility.
61	to re-use the waste from one activity/treatment possibly as a feedstock for another	Applicable	In Place – Overs material screened from the processed material may be re-introduced into a subsequent process batch as a bulking agent.
	Soil contamination		

BAT Ref	BAT Statement	Applicability	State technique and whether it is in place or state schedule for implementation
62	to provide and then maintain the surfaces of operational areas, including applying measures to prevent or quickly clear away leaks and spillages, and ensuring that maintenance of drainage systems and other subsurface structures is carried out	Applicable	In Place - The facility consists of an impermeable concrete slab floor that will contain any leaks or spills and negate any potential soil contamination.
63	to utilise an impermeable base and internal site drainage	Applicable	In place - All operational and waste storage areas have an impermeable base. There are separate surface water and leachate collection systems.
64	to reduce the installation site and minimise the use of underground vessels and pipework	Not Applicable	No underground pipework or vessels connected to process area.
	Biological treatments	Not applicable	
	Physico-chemical treatments of waste waters	Not applicable	
	Physico-chemical treatment of solid wastes	Not applicable	
	Physico-chemical treatment of contaminated soil	Not applicable	
	Re-refining of waste oils	Not applicable	
	Regeneration of waste solvents	Not applicable	
	Regeneration of waste catalysts	Not applicable	
	Regeneration of waste activated carbons	Not applicable	
	Preparation of waste to be used as fuel	Not Applicable	
	Preparation of solid waste fuels from non-hazardous waste	Not Applicable	
	Preparation of solid waste fuels from hazardous waste	Not applicable	
	Preparation of liquid waste fuels from hazardous waste	Not applicable	

ATTACHMENT 2

EWC CODES & DESCRIPTIONS

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Current & Proposed Waste Types Accepted and Processed at the Milltown Compost Facility

European Waste Catalogue (EWC) Code & Description
02 01 Waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing 02 01 01 Sludges from washing and cleaning 02 01 03 Plant-tissue waste 02 01 06 Animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated of site 02 01 07 Waste from forestry 02 01 99 Wastes not otherwise specified 02 02 Wastes from the preparation and processing of meat, fish and other foods of animal origin 02 02 01 Sludges from washing and cleaning 02 02 03 Materials unsuitable for consumption or processing 02 02 04 Sludges from on-site effluent treatment 02 02 99 Wastes not otherwise specified 02 03
<p>Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation</p> 02 03 01 Sludges from washing, cleaning, peeling, centrifuging and separation 02 03 04 Materials unsuitable for consumption or processing 02 03 05 Sludges from on-site effluent treatment 02 03 99 Wastes not otherwise specified 02 04 Wastes from sugar processing 02 04 03 Sludges from on-site effluent treatment 02 04 99 Wastes not otherwise specified 02 05 Wastes from the dairy products industry 02 05 01 Materials unsuitable for consumption or processing 02 05 02 Sludges from on-site effluent treatment 02 05 99 Wastes not otherwise specified 02 06 Wastes from the baking and confectionery industry 02 06 01 Materials unsuitable for consumption or processing
02 06 03 Sludges from on-site effluent treatment 02 06 99 Waste not otherwise specified
<p>Wastes from the production of alcoholic and non-alcohol beverages (except coffee, tea and cocoa)</p> 02 07 01 Wastes from washing, cleaning and mechanical reduction of raw materials

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European Waste Catalogue (EWC) Code & Description

02 07 02 Wastes from spirits distillation
02 07 04 Materials unsuitable for consumption processing
02 07 05 Sludges from on-site effluent treatment
02 07 99 Waste not otherwise specified
03 Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 01 Wastes from pulp, paper and cardboard production and processing
03 01 01 Waste bark and cork
03 01 05 Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03 Wastes from pulp, paper and cardboard production and processing
03 03 11 Sludges from on-site effluent treatment other than those mentioned in 03 03 10

Waste Packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified

15 02 Absorbents, filter materials, wiping cloths and protective clothing
15 02 03 Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
17 Construction and demolition wastes (including excavated soil from contaminated sites)
17 02 Wood, glass and plastic
17 02 01 Wood
17 05 Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 06 Dredging spoil other than those mentioned in 17 05 05
19 05 Wastes from aerobic treatment of solid wastes
19 05 01 Non-composted fraction of municipal and similar wastes
19 05 02 Non-composted fraction of animal and vegetable waste
19 05 03 Off-specification compost
19 05 99 Wastes not otherwise specified
19 06 Wastes from anaerobic treatment of waste
19 06 03 Liquor from anaerobic treatment of municipal waste
19 06 04 Digestate from anaerobic treatment of municipal waste
19 06 05 Liquor from anaerobic treatment of animal and vegetable waste
19 06 06 Digestate from anaerobic treatment of animal and vegetable waste
19 06 99 Wastes not otherwise specified
19 08 Wastes from waste water treatment plants not otherwise specified
19 08 01 Screenings

European Waste Catalogue (EWC) Code & Description

19 08 02 Waste from desanding
19 08 05 Sludges from treatment of urban waste water
19 08 09 Grease and oil mixture from oil/water separation containing only edible oil and fat
19 08 12 Sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14 Sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 08 99 Wastes not otherwise specified
19 09 Wastes from the preparation of water intended for human consumption or water for industrial use
19 09 01 Solid waste from primary filtration and screenings
19 09 02 Sludge from water clarification
19 09 03 Sludge from decarbonation
19 09 04 Spent activated carbon

19 12

Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

19 12 07 Wood other than that mentioned in 19 12 06
19 12 12 Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13 Wastes from soil and groundwater remediation
19 13 06 Sludges from groundwater remediation other than those mentioned in 19 13 05
19 13 08 Aqueous liquid wastes and aqueous concentrates from groundwater remediation other than those mentioned in 19 13 07

20 01 Separately collected fractions
20 01 01 Paper and cardboard
20 01 08 Biodegradable kitchen and canteen waste
20 01 25 Edible oil and fat
20 01 41 Wastes from chimney sweeping
20 02 Garden and park wastes (including cemetery waste)
20 02 01 Biodegradable waste
20 03 Other municipal wastes
20 03 01 Mixed municipal waste
20 03 02 Waste from markets
20 03 03 Street-cleaning residues
20 03 04 Septic tank sludge
20 03 06 Waste from sewage cleaning

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