

**DECOMMISSIONING & MATERIALS
MANAGEMENT PLAN FOR MILTOWN
COMPOSTING SYSTEMS,
(WASTE LICENCE NO. W0270-01)**

Prepared for:

**MILTOWN COMPOSTING SERVICES LTD
MILTOWNMORE
FETHARD
TIPPERARY**

Prepared by:

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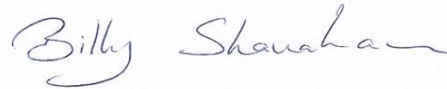
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ISSUE/REVISION INDEX

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1. INTRODUCTION

JRE Ltd. (JRE) was retained by Miltown Composting Systems (Miltown) to conduct a Decommissioning Management Plan for the composting facility at Milltown More, Fethard, County Tipperary operates under Waste Licence (W0270-01). Condition 10.2 of the Licence requires Miltown to prepare a Decommissioning Plan that addresses the proposed actions that will be taken in the event of the closure of the facility.

JRE's approach was based on the guidance in the Agency's 'Guidance on Assessing and Costing Environmental Liabilities' (2014) and included:

- A review of the activities carried out on the site, including waste handling and recovery operations;
- Inventory of the raw materials and waste products that typically are stored on-site;
- Identification of control measures to prevent incidents;
- Identification of all items of plant and other materials, including buildings that may be decommissioned, rendered safe or removed from site for disposal or recovery in the event of closure of the facility;
- Identification of all possible on-site locations where cleaning, decontamination or remediation works may be required in the event of decommissioning to prevent environmental pollution;
- Calculation of costs associated with the various steps required to ensure successful closure.

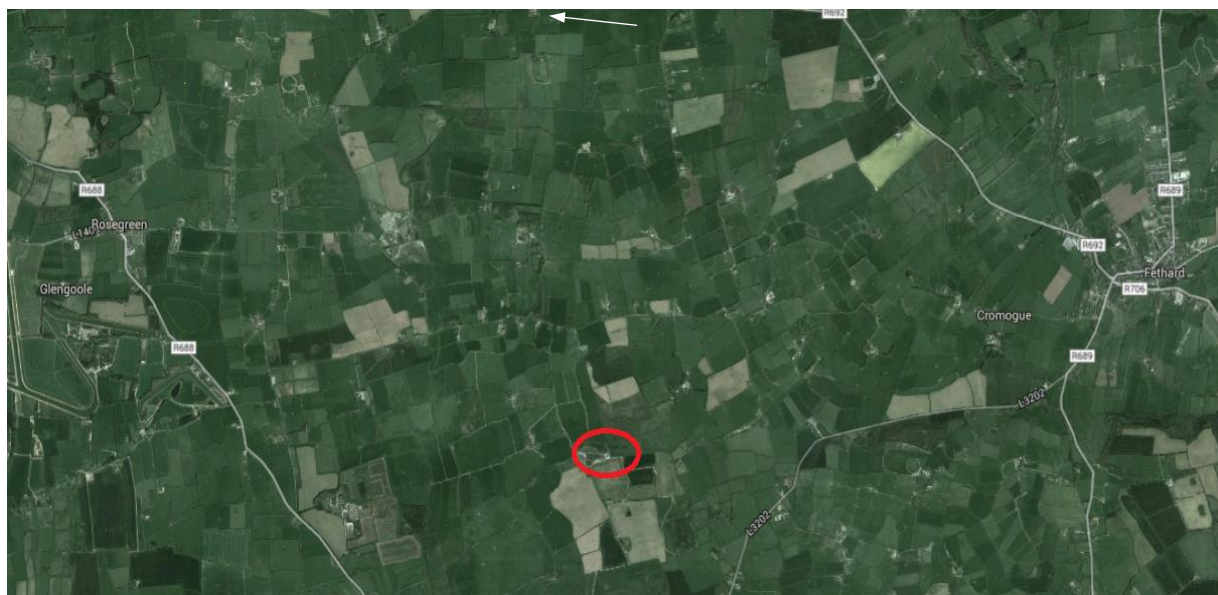
1.1. Site Description

The facility is located in the townland of Miltownmore, approximately 6 km to the east of Fethard and 10 km to the south west of Cashel, the site location is shown in Figure 1. It is accessible by a private road off the Rosegreen to Fethard third class public road.

The site layout is shown on Drawing 3201-003. The site encompasses approximately 5.9 hectares and is at an elevation of approximately 139m Ordnance Datum (OD), with the ground sloping gently to the east from a high point in the west. It is occupied by the facility reception building, Process shed 1, maturation Sheds 2 and 3, paved open yards; weighbridge, office; canteen/changing room; wetlands, biofilter and former cattle sheds.

The area to the north of the site is undeveloped and was formerly used for animal grazing. There are constructed wetlands in the south west of the site

Figure 1 – Miltown Composting Facility Site Location



1.2. Activities

The facility is a composting facility that accepts a broad range of compostable materials, including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal waste water sludges, green wastes and organic fines generated in the treatment of mixed municipal solid waste (MSW). The facility is licensed to accept and process 24,500 tonnes of bio-waste per annum for biological treatment.

The treatment process generally consists of blending with bulking agents, composting in separate enclosed tunnels and bays, maturation in windrows and post treatment to remove impurities. Incoming wastes are blended in the waste reception building with appropriate bulking agents (mainly woodchip, compost overs or green waste). Source segregated domestic/commercial (brown bin) organic waste and various sludges may be mixed together and blended with woodchip, while MSW fines are kept separate from other wastes to prevent contamination with plastics etc. Following blending the materials are placed within a dedicated composting tunnel. Once a compost batch has been processed it is then transferred to Sheds 2 and 3 for maturation in windrows until maturation. The matured material is then screened to remove impurities.

1.3. Licence/Permit Details

The Miltown Composting facility is operated under the conditions of Waste Licence Register Number W0270-01 as issued by the Environmental Protection Agency (EPA) in September 2010. The site is licensed by the EPA to carry out the following waste management activities.

- Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).

and;

- Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Condition 10.2 of the Waste licence requires the company to prepare a Decommissioning Management Plan (DMP). The specific waste licence conditions are as follows;

Condition 10.2 Decommissioning Management Plan

10.2.1 - The licensee shall prepare, to the satisfaction of the Agency, a fully detailed and costed plan for the decommissioning or closure of the site or part thereof. This plan shall be submitted to the Agency for agreement prior to the commencement of the activity.

10.2.2 - The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the agreement of the Agency.

10.2.3 - The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Condition 10.2.1 above.

Condition 10.3 - The Decommissioning Management Plan shall include as a minimum, the following:

- 10.3(i) - A scope statement for the plan.
- 10.3 (ii) - The criteria which define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment.
- 10.3 (iii) - A programme to achieve the stated criteria.
- 10.3 (iv) - Where relevant, a test programme to demonstrate the successful implementation of the decommissioning plan.
- 10.3 (v) - Details of costing for the plan and the financial provisions to underwrite those costs.

1.4. Closure Scenarios

Using the look up tables contained in Appendix B of the EPA document Guidance on Environmental Liability Risk Assessment, Residual Management Plans and Financial Provision (2006), the facility comes under a reference 5. R2 facility and has a complexity band of G3 which screens the facility as category 3 site. A risk category 3 facility typically requires a closure plan and in some cases restoration, aftercare and management plan for certain operations onsite due to the presence of potential significant ground contamination at the site. 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.

2. SITE EVALUATION

2.1. Introduction

As a means of assessing the historical compliance status of the site the most recent annual environmental reports (AERs) were reviewed. The AERs were available for the years up to and including 2016. The nature of the complaints, non-compliance and inventories of plant/equipment and materials are described in this section.

2.2. Operator Performance

There is no record of any historic incidents at the facility that could have impacted on soil or groundwater quality and there have been no emission to surface water or waste water which have significantly impacted offsite.

2.3. Environmental Pathways

This section describes the environmental monitoring on site as outlined in the waste licence.

2.3.1. Surface Water

Rainfall on the undeveloped northern part of the site infiltrates to the soil. Runoff from concrete yards surrounding the empty cattle sheds is directed to a surface water drain that runs along the western site boundary. Currently, surface water from the paved open yards in the operational area is collected in drains and directed to the surface water drain at the western boundary via an oil interceptor. Clean run-off from the building roofs is directed to the open surface water ditch and directed off site at the southwest corner of the site.

2.3.2. Emissions to Sewer

There are no process waste discharges to the sewer system from the Miltown Composting facility as required under Schedule C.3.2. There is also no connection to a foul sewer and sewage from the toilets and canteen is currently discharged to an on-site waste water treatment tank and percolation area.

2.3.3. Waste Generation

The primary waste generated on site is office and canteen waste. A waste inventory is prepared as part of the Environmental Management System.

2.3.4. Emissions to Atmosphere

There is one licensed emission point to air points at the Miltown Composting facility (Biofilters). The emission is from a biofilter unit used to treat air emissions from the process sheds in the facility. The variance of air monitoring that occurs at the facility is large with continuous extraction, quarterly (odour), biannually (dust and PM) and annual (bacteria and aspergillus) as outlined under Schedule C.1.1 of the site Waste Licence. There are no process emissions to air from the facility.

2.3.5. Noise

The site is located in an area that is not close to residential properties. All process operations take place inside the facility buildings. Noise monitoring is required under Condition 6.12 and Schedule B.3 of the IE Licence.

2.4. Site Processes and Activities

The Miltown Composting facility is operated under the conditions of Waste Licence Register Number W0270-01 as issued by the Environmental Protection Agency (EPA) in September 2010. The site is licensed by the EPA to carry out the following waste management activities.

- Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).

and;

- Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced

2.5. Inventory of Buildings and Plant

The Miltown Composting Facility consists of the buildings and equipment as in Table 2-A and Table 2-B;

Table 2-A – Building Information

Building	Location
Reception Building	West of Shed 1
Shed 1	South area of the site
Shed 2	South east area
Shed 3	South east area
Slatted Cattle Shed	Middle of site
Storage Shed	South west of Shed 1, on the southern boundary
Weighbridge	Western boundary of facility, located beside the access road to the site
Canteen/Changing Room	South of Reception Building

Table 2-B – Equipment Information

Products	Volume
Telescopic Loader	3
Shredder	1
Trommell Screen	1
Star Screen	1
Power washers	2

2.6. Inventory of Raw Materials, Products and Wastes

The main materials stored on the Miltown Composting site are outlined on Table 2-C.

Table 2-C – Volume of Hazardous Materials

Products	Volume
Diesel Oil	2500
Lubrication Oils	600
Waste Oils	400

The Miltown Composting facility is licensed to handle and process organic materials as outlined in Schedule A of the IE Licence. A tabulated breakdown of the quantity and composition of waste received and processed in 2015 is shown in Table 2-D.

Table 2-D: Tonnage of Waste Received at Miltown Composting in 2016

EWC Code	Description of Waste	Waste in Tonnes	Recovery / Disposal
19 12 07	Waste from the mechanical treatment of wood waste	118.45	Recovery
20 02 01	Garden and park waste from municipal sources	387.64	Recovery
19 12 12	Organic Fines	23924.258	Recovery
20 01 25	Edible oils and fats	1.12	Recovery

3. CLOSURE TASKS AND PROGRAMMS

3.1. Introduction

Using the risk classification tool in the EPA 2006 Guidance Document as a conservative indicator of the potential risk associated with the facility, the site was identified as category 3 risk site. The new 2014 guidance on environmental liability risk assessment removes the need for categorising sites but the exercise was completed to clarify the potential risks associated with the site. Based on the environmental controls in place at the Miltown Composting site a clean closure is envisaged for the site; that is, upon cessation of operations and subsequent decommissioning at the facility, there will be no remaining environmental liabilities.

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.

3.2. 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

3.3. 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.

3.4. 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.

3.5. 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.

3.6. 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.

3.7. Contaminated Land treatment, removal and or disposal

Any areas of ground with visual contamination will be excavated directly for on-site and 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.

4. CRITERIA FOR SUCCESSFUL CLOSURE

The criteria for successful decommissioning to ensure minimum impact to the environment with respect to management of the site closure are as follows:

- The appropriate decontamination of all plant and equipment
- Documented reports of all raw materials dispatched from the site
- Documented reports on the disposal of hazardous waste including all certification required under regulations in force at the time.
- The appropriate decommissioning of all buildings;
- Continued implementation of the existing environmental management system(EMS) during the decommissioning process and maintaining the EMS post closure of the site until required;
- Independent verification that no soil or groundwater contamination exists onsite upon decommission through additional site investigations and
- Independent verification and certification of clean closure status.

Furthermore, the areas occupied by all site facilities and ancillary areas will be decommissioned and rehabilitated to an acceptable level so that there are no constraints on future use due to residual contamination or structures. Materials will be treated in such a manner that:

- Equipment and uncontaminated materials will be resold or reused;
- Uncontaminated materials that cannot be reused will be recycled;
- Contaminated or un recycled materials will be disposed of using authorised waste contractors

The overall objective is for clean closure of the site with no residual liabilities or constraints, and no liability costs associated with the building or equipment is expected during site closure. The estimated costs associated with other closure activities are outlined in Table 2.1.

5. CLOSURE PLAN VALIDATION

5.1. Environmental Monitoring

An environmental exit audit of the site will be carried out following the announcement of closure and prior to actual decommissioning and closure operations taking place. The audit will devise an accurate inventory of all plant, equipment and wastes on the site. This inventory will be used as a benchmark against which successful decommissioning will be assessed. All waste licence monitoring for the site with respect to surface water, groundwater and waste management will remain in effect over the course of the decommissioning phase.

5.2. Decommissioning Plan Implementation

There are currently no plans for closure of any part of the site but the Environmental Protection Agency will be given three months' notice and six months' notice of any partial or full closures respectively. The form of notice will be in accordance with prevailing guidance documents and in accordance with consultations with the EPA. Other statutory bodies including local authority will be notified of plans to cease operations and proposed decommissioning timeframe

5.3. Closure Validation Audit & Report

Following implementation of the DMP, Miltown will conduct a validation audit to demonstrate successful implementation of the DMP to the EPA. The qualification and experience of the auditor will be provided and agreed with the EPA prior to the validation commencing. A validation report will be submitted to the EPA upon completion.

5.4. Closure plan update and review

The decommissioning plan will be reviewed annually and updated accordingly. This review will address all developments at the Miltown and evaluate the scope of the DMP in the context of any environmental incidents at the site. The updated and reviewed plan will take account of any site or process changes, technology changes and costing changes

6. CLOSURE PLAN COSTING

Task	Description	Quantity No.	Measurement Unit	Unit Rate	Cost (€)
Site Equipment & Building Removal	Weighbridge*	1	Unit	0	0
	Fuel Tank	1	Unit	2,000	€2,000
	Tanks, Pipework, etc. *	100	Tonnes	0	0
	Site Machinery*	8	Machines	0	0
	Termination of Underground Utilities	1	Unit	5,000	€5,000
	Mobile Plant for Removal of Equipment	1	Month	2,660	€2,660
Waste Removal	Removal of Organic Waste Materials	200	Tonnes	30	€6,000
	Disposing Miscellaneous Non-Hazardous Waste	5	Tonnes	120	€625
	Disposal of Wash Water	30	M ³	30	€900
Cleaning	Pipe-Work	1	Contractor	1,500	€1,500
	Surface Water Drains & CCTV Assessment	1	Contractor	1,500	€1,500
Analysis	Interceptor & Drain Water	200	Sample	5	€1,000
	Wash Water	2	Sample	200	€400
Environmental Monitoring	Continued Monitoring for 1 Year	5	Days	500	€2,500
Leachate	Removal of Leachate off site	20	M ³	120	€2,500
Site Security	Site patrols, CCTV, etc.	5	Weeks	100	€500
Reporting	Annual Reporting	1	Years	2,000	€2,000
Resource Usage	Power Consumption	-	Unit	-	€0
Staff Costs	Supervisor	1	Days x 10	200	€2,000
	General Operatives	4			
Site investigation for clean closure verification		Consultant costs	Days x 5	600	€3,000
Closure verification/certification		Consultant costs	Days x 5	600	€3,000
Subtotal					€37,085
Contingency (20%)					€7,417
Total					€44,502

*- Equipment will be sold and as such costs will be nil

The estimated costs associated with site decommissioning and closure as seen in the Table above are based on the following:

6.1. Plant and Equipment Decontamination Costs

The cleaning/decontamination of plant and equipment will be carried out by licensed/permitted contractors and will be removed by the contractors.

6.2. Buildings and Equipment Decommissioning Costs

Buildings in use at the facility are owned by Miltown and as such there is no decommissioning or removal costs associated with this as Miltown will carry out all works at an internal cost.

6.3. Demolition Costs

There will be no demolition occurring at the site should it close.

6.4. Waste Recovery or Disposal costs

Following commencement of closure, there will be a cessation of intake of waste at the facility. Also, all waste will be removed and disposed of from the site by a licenced contractor.

6.5. Environmental Monitoring Costs

An environmental exit audit of the site will be carried out following the announcement of closure. All licence monitoring for the site with respect to surface water, groundwater, noise and dust will remain in effect over the course of the decommissioning phase.

6.6. Site Security Costs

The security at the site will continue to operate as normal after site closure.

6.7. Validation Costs

The costs associated with validation are described in the table as site investigations for clean closure and verification. Monies paid in relation to these activities will be consultant costs.

6.8. Financial Provision

The figure of € 44,502 calculated for the implementation of the DMP represents the present value of the current estimate of the costs for closure of the Miltown site. Miltown has adequate financial resources to implement the DMP through to completion and will make specific financial provision for closure of the site.

7. CLOSURE PLAN REVIEW AND UPDATE

7.1. Proposed Frequency of Review

The decommissioning plan will be reviewed annually and updated accordingly.

7.2. Proposed scope of review

The review will address all developments at the Miltown site and evaluate the scope of the DMP in the context of any environmental incidents at the site. The updated and reviewed plan will take account of any site or process changes, technology changes and costing changes.

8. CONCLUSIONS

There are currently no plans for closure of any part of the Miltown site. It is expected that a clean closure will take place in event of site closure. With this in mind it is expected that the closure of the Miltown site would be relatively straight forward and that the site would be closed in an orderly planned manner rather than in a sudden or unforeseen manner.