# 2022 OPERATIONAL REPORT FOR MILTOWN COMPOSTING SYSTEM LTD. LICENCE REVIEW.

## Prepared for:

**MILTOWN COMPOSTING SYSTEMS LTD.,**

**MILTOWNMORE,**

**FETHARD,**

**CO. TIPPERARY**

JRE
Environmental Consulting

**3377 - Miltown**
**December 14th, 2022**

**ISSUE/REVISION INDEX**

| Revision | | | | Pages Revised | Remarks |
|---|---|---|---|---|---|
| # | Prep. | Review. | Date | | |
| PA | JR | 0 | 10/12/2017 | | Original Document |
| PB | JR | 1 | 14/12/2022 | All | Review 1 |
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Prepared by; John Rea, B.Sc., MIEnv.Sc.

## 1. INTRODUCTION

This Site Condition Report was completed as part of a review of Miltown's Environmental Protection Agency (EPA) Waste Licence (Ref. W0270-02). Miltown propose to increase the throughput of material at the composting facility to approximately 240 tonnes per day (not exceeding 75,000 tonnes per annum) with the reconstruction of the two old agricultural sheds as material maturation sheds (Sheds 2B and 3B) and to apply to the Environmental Protection Agency for an Industrial Emissions Licence continue to regulate the facility. The site is located in the townland of Miltownmore, approximately 6 km to the east of Fethard and 10 km southwest of Cashel. The site encompasses approximately 5.9 hectares. It is at an elevation of approximately 139m Ordnance Datum (OD) and slopes gently to the west from a high point in the east. It is occupied by a waste reception building, a process building (i.e., Shed 1), a covered yard area, sheds 2 and 3 for maturation of material and paved open yards; weighbridge, office; canteen/changing room; storage shed; wetlands, a bio filter and agricultural sheds. The area to the north of the sheds is undeveloped and formerly used for animal grazing, the area to the southwest of the Sheds is a series of integrated constructed wetlands, further south of the wetlands, to the east and to the west are all agricultural lands. The site area can be seen in Figure 1.

**Figure 1. Site Area**

## 2. OPERATIONAL REPORT

This section will outline the operations which occur at the Miltown site, the process, plant abatement and recovery and treatment systems.

### 2.1 Operation Process

The 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, 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 that has an area of 587 $m^2$ and an amendment store of 92.60 $m^2$ located immediately to the west of Shed 1 (approximately 1,700$m^2$ area). Immediately to the east of Shed 1 is the covered yard area that has an area of 1,415$m^2$ and then maturation is carried out in sheds 2 and 3 to the east of the covered yard area, which combined occupy an approximate area of 2,840 $m^2$. 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 exists in the northern area of the reception building to store diesel and lubricating/hydraulic oil. 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 and is accessed by an unpaved road running along the southern side of Sheds 1 and 3.

The materials are transferred from the reception area to the vessels using the telescopic loader. 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 40cm 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 40cm). 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.

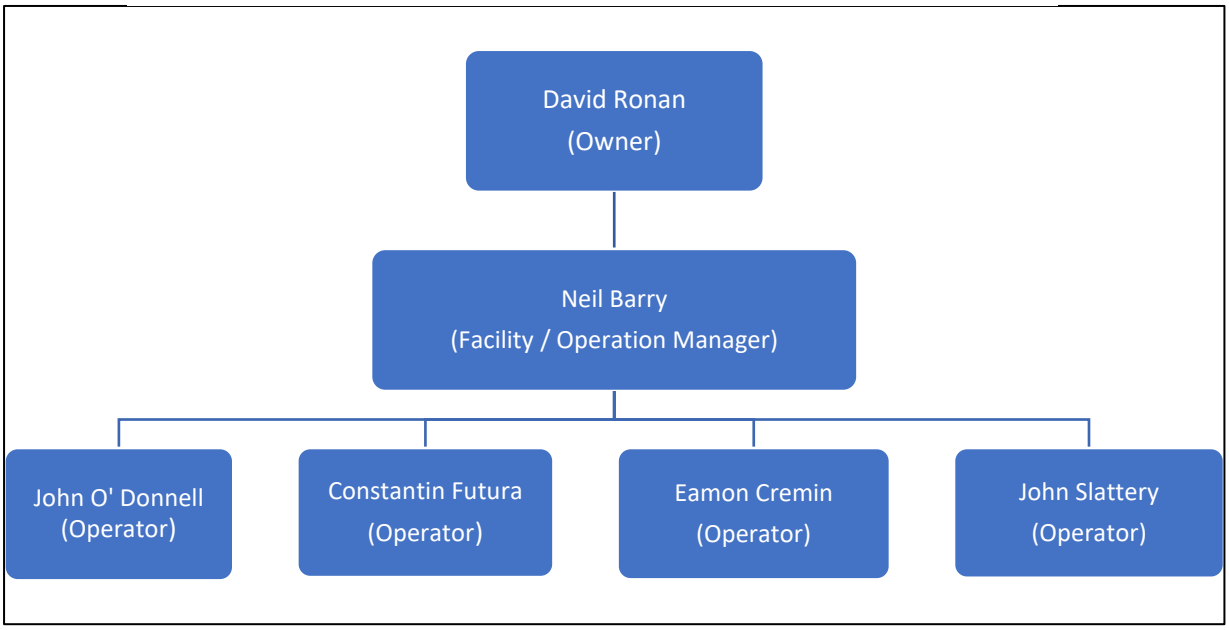
The biofilter is visually monitored every working day by the operator on duty. The moisture content is the single most important parameter for the efficient microbial activity. For a typical natural biofilter media (e.g. wood chips plus peat) the moisture content should be maintained in the range of 40 to 60 percent. Water is applied to the filter as required to ensure optimum efficiency. As required, 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

### 2.2 Site Structure

The site management structure for Miltown Composting is outlined in Figure 2 below. The experience and training of the main facility management and personnel is provided in the Technical Knowledge attachment included in the licence review application.

**Figure 2: Milltown Composting Management Structure**




### 2.3 Site Equipment

The equipment used within the facility for the processing and movement of material and product are provided below:

- 3 Front end loaders are used for transferring biowaste into, and between, composting bays within Shed 1. They are also used for moving material following the composting process and the loading of matured materials for transfer offsite.
- 1 trommel Screen,
- Power Washer.

The site equipment currently provides 100% duty and 50% standby for compost processing and could also be used for processing the proposed increased throughput. If there is a break down, additional

plant may be hired for use on-site for short periods to augment standby capability and ensure continued site operations

## 2.4 Methods/Process

An outline of the existing process is provided in Attachment 1 and shows the flow of material through the facility.

### 2.4.1 Waste Reception

Waste reception, blending and in-vessel composting is carried out in the new reception shed (i.e., covered yard area to the west of Shed 1) and Shed No. 1, which occupies an area of approximately 1,700 square meters ($m^2$). Maturation is carried out in Sheds 2 and 3 to the east, which combined occupy approximately 2,840 $m^2$. In the reception area the organic waste material may, depending on composition, be shredded to enhance the composting process and source segregated household and catering organic waste may be screened to remove contaminants (e.g. plastic). Wastewater treatment sludges or fine structured materials are mixed with a bulking agent (e.g. shredded green waste) to improve porosity to help with the composting process.

### 2.4.2 Thermophilic Stage

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 temperature probes are placed within the waste body before sheeting is placed over the top of the vessel. There is a computerized 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 vessels consist of a forced air system and oxygen levels are maintained through on going positive air input to the vessels. 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 40cm and to achieve a sustained temperature of 60$^{o}$C over two separate 48-hour periods. The MSW fines typically have a particle size less than 40cm and do not require additional processing. Large items are manually removed before the materials are composted. Maintaining the temperature at 60°C for the required two separate time periods is achieved by composting the same compost batch in two different vessels. In the first vessel, or Barrier 1, the process usually takes one week and when completed, the material is transferred 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 composting vessels.

### 2.4.3 Mesophilic Stage

When the material has completed the thermophilic stage, it is removed from the second vessel and transferred to Sheds to the east where it is formed into windrows. Depending on the source of the waste materials it may be blended with wood chip to improve porosity. The windrows are formed using the telescopic loader and are turned as required using the loader. Temperature, oxygen and moisture content are regularly monitored and the moisture and turning regime revised as required to ensure optimum conditions. The mesophilic stage can take up to 6 weeks to complete and the finished compost may, depending on the nature of the source material, need to be screened to remove

contaminants. These contaminants are stored on-site, in in the covered yard are to the east of Shed 1, pending consignment to off-site disposal/treatment facilities.

The waste acceptance procedures and emergency response procedures to be followed in the event of an unforeseen incident at the facility are included as part of the site Environmental Management System. The standard operating procedures for Waste Acceptance, Non-conformance material and corrective actions, emergency response and accident prevention are included in Attachment 2.

### 2.4.4 Proposed Changes

Miltown propose to increase the throughput of material at the composting facility to approximately 240 tonnes per day (not exceeding 75,000 tonnes per annum) with the reconstruction of the two old agricultural sheds as material maturation sheds (Sheds 2B and 3B) and to apply to the Environmental Protection Agency for an Industrial Emissions Licence continue to regulate the facility. The future licenced area will be the same as the current waste licence (Ref. W0270-02) for the site. The reception area for organic material will continue to be in the existing reception building, where delivery trucks will back in and deposit their loads to the reception area.

The range of waste materials currently accepted at the composting facility will not change. The site will continue to only accept biological waste material for treatment and it is envisaged that future operation of the facility will serve to accept increased volumes of these organic materials from waste collectors. The bio wastes (e.g., food waste and screened organic fines material) will continue to be delivered to site in enclosed trailers for aerobic composting and stabilisation. The increased compost processing throughput at the facility will allow the facility deal with a greater volume of bio-waste and increase the facility's capability to service the Southern Regions waste needs.

Based on the current processing regime at the Miltown facility the retention time in the process bays in Shed 1 during the intensive composting process would be approximately 2 weeks. Bays D and E are double bays and can hold 300 tonnes of composting material each, the bay in the reception shed (bay H) has the capacity to process 250 tonnes and the remaining composting bays in shed 1 have the capacity to process 150 tonnes each. This results in a maximum process capacity of 2,950 tonnes of material at the facility every 2 weeks. Based on the calculated throughput capacities of the composting bays the facility would have the capacity to process up to 75,000 tonnes per year of organic material through Shed 1. However, with a composting process time frame in Shed 1 of 2 to 3 weeks it would result in a higher volume of stabilised organic fines material or compost being produced and, based on the floor area available in Sheds 2 and 3 would result in a shortfall of floor area for maturation of the processed organic material.

The proposal is to increase the tonnage throughput in the plant from 50,000 tonnes per annum to up to 75,000 tonnes per annum. Due to the relatively short time period that the organic material spends in the composting bays during the process phase in Shed 1 and the waste reception shed it is considered that the existing process facility bays will be capable of processing the increased throughput. However, the capacity to mature the material following processing will require an increase in maturation area at the facility. It is proposed that the old agricultural sheds located to the west of the compost reception shed will be reconstructed as maturation sheds 2B and 3B and fitted with an under floor forced air system to allow for the maturation of organic material in static piles as an extension of the maturation process completed in Sheds 2 and 3.

## 2.5 Abatement

This section will outline the abatement systems which are currently in place at the site and which will be introduced if the increased tonnage and the additional maturation sheds are included as part of the reviewed licence.

### 2.5.1 Air

Miltown have odour control measures in place at the facility to abate air extracted from the current process and maturation sheds. The existing Miltown facility has two (2) biofilter units, 1 located at the south of Shed 1 for the treatment and mitigation of extracted air from the reception and process sheds (Biofilter 1) and 1 located to the north of Shed 2 for the treatment of extracted air from maturation shed 2, shed 3 and Shed 4 (Biofilter 2). Currently, the existing exhaust ductwork system is suspended from the structural steel at the apex of the buildings. The apex ductwork for each biofilter runs to externally located fans and the exhaust from the fan passes through each biofilter. The calculations below show the design capacity of each biofilter on the site to achieve 2.5 air changes per hour (the volume of air changes as set down by the Waste Treatments Industry (EU BREF 2006). Section 4.1.33 of Reference Document on Best Available Techniques in the Slaughterhouses and Animal By-products industries states that the residence time required to effectively abate an odour depends on the odour strength and which pollutants are present in the gas. For low intensity odours a residence time of at least 30 seconds should be aimed for, rising to up to 60 seconds for very strong odours. Tables 1 and 2 provide the calculated retention time within each existing biofilter.

**Table 1 Biofilter 1 Size and Capacity and Exhaust Air Retention Time**

| Building Volume | | | Volume ($m^3$) |
|---|---|---|---|
| Shed 1 Volume | | | 12,935.32 |
| Reception Shed Volume | | | 4,773.00 |
| **TOTAL** | | | **17,708.32** |
| Air Volume to be Treated in Biofilter | 2.5 x Air changes per hour in Shed 1 and 2 air changes per hour in Reception Shed | | **41,884.30** |
| Air volume arriving at the biofilter | 41,884.30 | $m^3$/hr | |
| | 11.634 | $m^3$/s | |
| Biofilter surface area | 520 | $m^2$ | |
| Calculated Speed of Air through Filter | 0.0223 | m/s | |
| Media Depth | 0.85 | m | |
| Residence time in media | 38.11 | seconds | |

**Table 2 Biofilter 2 Size and Capacity and Exhaust Air Retention Time**

| Building Volume | | | Volume ($m^3$) |
|---|---|---|---|
| Shed 2 Volume | 2.5 Air Changes per Hour | | 12,530 |
| Shed 3 Volume | | | 12,530 |
| Shed 4 Volume | | | 12,240 |
| **TOTAL** | | | **37,300** |
| Air Volume to be Treated in Biofilter | 2.5 x Air changes per hour in Shed 2 and 2 air changes per hour in Sheds 3 & 4 | | **80,865** |
| Air volume arriving at the biofilter | 80,865 | $m^3$/hr | |
| | 22.46 | $m^3$/s | |
| Biofilter surface area | 485 | $m^2$ | |
| Calculated Speed of Air through Filter | 0.0463 | m/s | |
| Media Depth | 1.67 | m | |
| Residence time in media | 36.07 | seconds | |

The aspiration system for Shed 2, Shed 3 and Shed 4 is provided to maintain negative air, the system uses two separate exhaust fan's, one larger fan can exhaust air from Shed 2 (i.e., 2.5 ac/hr) and can also exhaust 70% of shed 4 (2 ac/hr). A second, smaller exhaust fan can exhaust 100% of air from Shed 3 (2 ac/hr) and 30% of shed 4 (2 ac/hr).

To aspirate the full load capacity, the motor on the fans are fitted with variable speed controller's which controls the air volume extracted from the buildings, the fans are adequately sized to accommodate the air loading.

The extraction system has capacity for 2.5 air changes per hour in Shed 2 and 2 air changes per hour in Shed 4 and also 2 air changes per hour in Shed 3, at a gas loading rate of <100$m^3$/h-$m^3$ of filter media and a gas residence time of 30 – 60 seconds as per Waste Treatment Industries EU BREF 2006.

Biofilter 2 has a surface area of 484.98$m^2$ (L - 35.4m and W – 13.7m) with a filter media depth of 1.67m. This results in a biofilter volume of 809.91 $m^3$. The residence time in the bofilter (based on the maximum air flow exhausted from the sheds) is outlined in Table 2.

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 and allows for a longer residence time for exhausted air in the biofilter media.

### *Proposed Biofilter 3 for Maturation Sheds 2B & 3B*

As part of the future operations at the facility a portion of composted material processed in Shed 1 would be transferred to the proposed new maturation sheds (i.e., maturation sheds 2B and 3B). To control any potential odours from this area it is proposed that a dedicated air extraction system and biofilter would be installed as part of the proposed maturation sheds development. The size of the proposed third biofilter is based on 2.5 air changes per hour within the maturation shed 2b (where forced air maturation of static piles would be completed) and maturation shed 3B (where material would be screened and stored for sampling and off-site transfer) to meet the minimum residence time within the biofilter media for extracted air.

**Table 3: Biofilter 3 Proposed Size and Capacity and Exhaust Air Retention Time for Biofilter 3**

| Building Volume | | | Volume ($m^3$) |
|---|---|---|---|
| Maturation Sheds 2B and 3B Volume | | | 32,640 |
| **TOTAL** | | | **32,640** |
| Air Volume to be Treated in Biofilter | 2.5 x Air changes per hour in Maturation Shed 2B and 2 air changes per hour in Maturation Shed 3B | | **81,600** |
| Air volume arriving at the biofilter | 81,600 | $m^3$/hr | |
| | 22.67 | $m^3$/s | |
| Biofilter surface area | 485 | $m^2$ | |
| Calculated Speed of Air through Filter | 0.046735 | m/s | |
| Media Depth | 1.90 | m | |
| Residence time in media | 42.79 | seconds | |

With the installation of the proposed air control and treatment system for maturation sheds 2B and 3B the impacts on air quality from the proposed development would be expected to continue to be low.

### 2.5.2 Surface Water

As part of the site control measures, changes to the existing surface water drainage and contaminated water management system were completed to effectively prevent environmental impacts. A surface water drainage connection has been installed that connects the ramped waste reception area to the leachate circulation system. The drainage system ensures that all surface runoff from the waste reception area floor is directed to the leachate collection system. The floor runoff is diverted to the pump sump tank where it is then pumped through the pump filtration system to be re-circulated back to the process bays in Shed 1. In the event that a significant volume of liquid is discharged at the reception area floor then the runoff collected in the leachate collection pump sump tank can be diverted to the 47.54 $m^3$ containment tank located at the southwest corner of Shed 1 and then added to the process bays when required. The contaminated runoff collection and drainage system ensures that any runoff from inside the reception building is directed to the closed leachate management system for re-circulation in the composting process and will not be released to the environment.

The surface water drainage system for the turntable where trucks reverse into the waste reception area has 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 drains to a grated silt trap gulley which is then directed via a 150mm PVC pipework beneath the reception area to the existing silt trap and oil interceptor to the south of the reception building. Once the surface water passes through the interceptor it passes through the diversion gulley and through the existing 150mm piping south to the integrated constructed wetland (ICW). A diversion pipeline with a lockable valve has been installed at the access to the 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 storm water line to the leachate line. 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.

All non-impacted surface water from the outside yard areas are diverted to the oil/water interceptor and released from there to the Integrated Constructed Wetlands (ICW) onsite and stormwater from the facility roofs is directed to the ICW directly. The ICW ponds provide additional treatment for surface water from the site to ensure minimal emissions from the facility. All stormwater from the proposed new maturation sheds (2B and 3B) will be directed to the ICW and will not be discharged directly from site.

### 2.5.3 Groundwater

The mitigation measures employed for the protection of groundwater will also serve to protect soils and geology in the area. The protection measures are closely related to the controls to protect surface water quality, and include;

**Existing Facility**

A containment tank (47.54 m3) is in place as part of the leachate / process water recirculation system at the southwest corner of Shed 1. This tank is 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.

As part of the leachate collection system, collected impacted water is directed initially to a new pump/sump tank located south of the amendment storage area, from where it is pumped to the recirculation tank for recirculation into the process.

The provision of an impermeable surface at the turn table area of the reception shed for vehicles delivering organic waste to the facility allows for further appropriate management of potentially contaminated surface water runoff from this area, which is directed to the dedicated contaminant/recirculation system.

To manage any possible spillage risk on the turntable area Miltown will employ their Waste Acceptance Procedure, the Cleaning and Hygiene Procedure and the site Emergency Response Procedure. The 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.

A 0.7m high kerb around the footprint of the reception building allows the use of this area for the retention of any runoff and ensures that any possible spillage is directed into the leachate collection system and not to soils surrounding the process building or reception shed.

The installation of a new roof and impermeable concrete floor at the waste reception area reduces the potential for run off of impacted surface water to open ground, where is could potentially migrate to soils and the underlying aquifer. All potentially impacted surface water runoff at the reception building are collected and recirculated back into the process. No water from the reception area will be allowed to migrate from the building to surrounding soils.

Although it is not anticipated that there will be any impacts from the facility operations on the underlying site soils, geology or hydrogeology, the implementation of the control measures on site will help ensure that potential for the migration of contaminants from the facility into the underlying soils and groundwater are negligible.

***Proposed New Maturation Sheds***

The existing ICW has the capacity to receive storm water from the roofs of the proposed maturation sheds (i.e., 2B and 3B) for treatment prior to discharge. The proposal would be to include an impermeable surface for the maturation sheds 2B and 3B floor and a ramped or sloped access door for vehicles collecting matured organic material for transfer off site. This will provide appropriate management of potentially contaminated surface water runoff from this area, which will be held inside the buildings. The new maturation sheds also have leachate collection drains and collection sumps included as part of the building design that would collect and control any leachate that may migrate from the maturing material.

All surface water from the concrete surfaces at the entrance, and other external areas around the new proposed maturation sheds (i.e., 2B and 3B) will be directed to a dedicated full retention oil water separator prior to discharge to the ICW system.

# ATTACHMENT 1

## Process Flow Diagram

**Figure 3-1 – Miltown Composting Process Outline**

Material Intake Ramp

Dispatch

Shed 3

Processed Material Storage

Reception Building

Shed 1

Waste Acceptance and Pre-Treatment

Pre-Composting

ABP Pasteurisation

Processed Material Storage

Feedstock Preparation

Shed 2

# ATTACHMENT 2

## Standard Operating Procedures

| Emergency Response Procedure - Licence W0270-02 | | | |
|---|---|---|---|
| **Document Ref.:** | **ERP-** | **Revision No.:** | 001 (February 2020) |
| **Licence Condition:** | 9.2 | **EMS Section:** | **-** |
| **Responsibility:** | Operations Manager | **Related Documents:** | Fire Risk Assessment, Accident Prevention Procedure, Waste Storage Plan |
| **Document Holders:** | EMS Manual | | |

The Milltown Composting facility has updated the Emergency Response Procedures for the to include for the revised Fire Risk Assessment and Waste Storage Plan prepared for the site in 2020. The procedure is a response procedure for emergencies that could have a potential impact on the environment as required under Condition 9.2 of Industrial Emissions Licence W0270-02. The revised Emergency Response Procedure was prepared with reference to the Guidance Document "EPA 2016 Guidance to Licensees on the Preparation of Accident Prevention Procedures and Emergency Response Procedures".

**Purpose:**

- To protect human health.
- To limit the effects of an uncontrolled spill on the surrounding environment.
- To ensure that material is appropriately stored to prevent spills and fire
- To limit the effects of a fire on the surrounding environment
- To liaise with the necessary authorities as required.

**Scope:**

This procedure covers emergency situations which may arise at the facility, including:

- Material Storage & Fire
- Material Storage and Spills

AS required under Licence Condition 8.14.8 a copy of the waste storage plan is included as Attachment 1

## PROCEDURES

The Standard Operating Procedures used on the Milltown Composting site during normal operations are employed to minimise emergencies and to control the risk and environmental impact of any emergency on the environment.

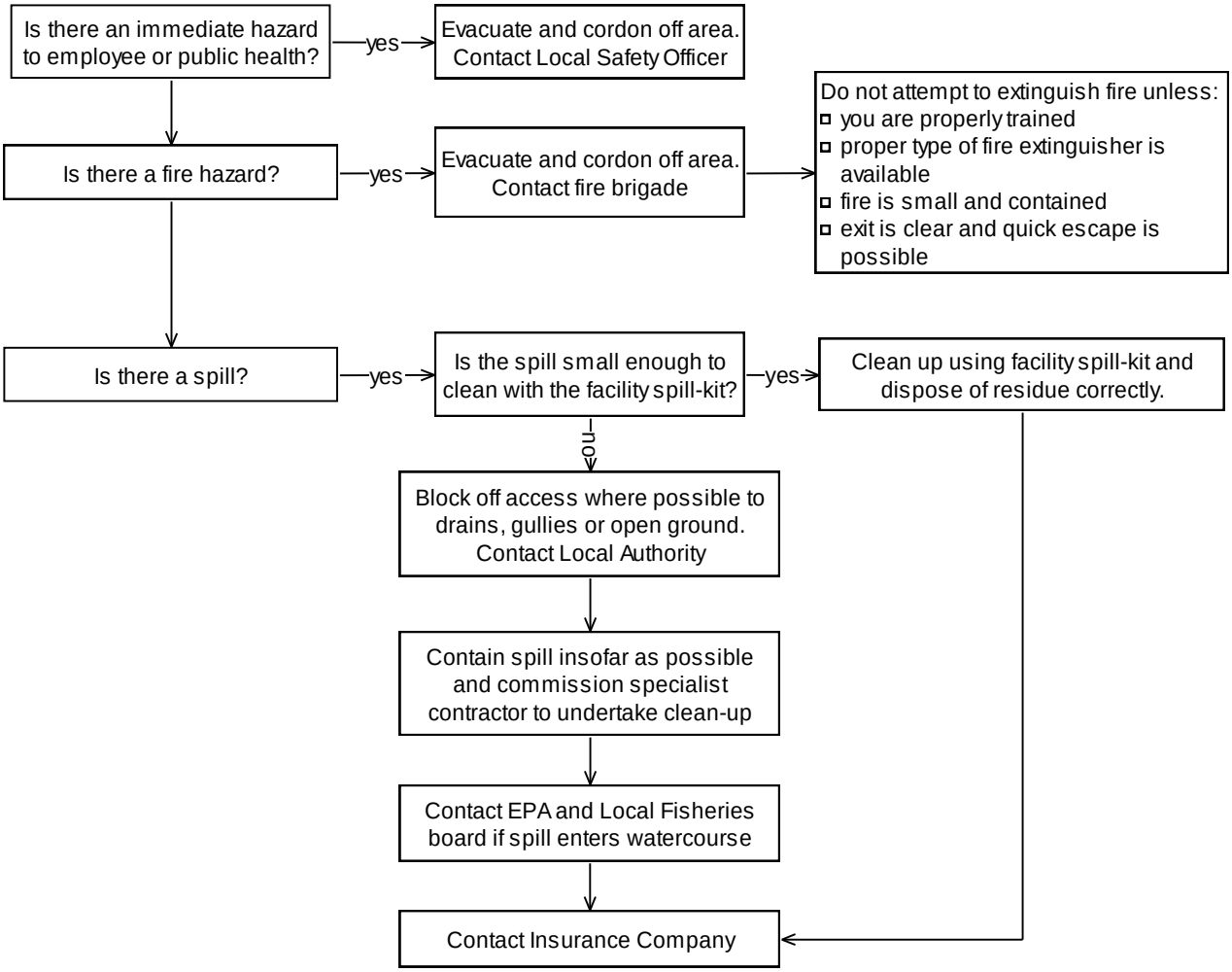
**Reference Documents**

| Document Ref. | Description |
|---|---|
| SOP MC04 | Leachate Handling Procedure |
| SOP MC03 | Cleaning and Hygiene Procedure |
| SOP #5 | Quarantine, Maturation & Screening |
| SOP MC11 | Incident Notification Procedure |
| N/A | Raw Material Intake Log |
| N/A | Weekly inspection Log |
| N/A | Cleaning and Maintenance Log |

| Emergency Response Procedure- Licence W0270-02 | | | |
|---|---|---|---|
| **Document Ref.:** | **ERP-** | **Revision No.:** | 001 (February 2020) |
| **Licence Condition:** | | **EMS Section:** | **-** |
| **Responsibility:** | Operations Manager | **Related Documents:** | Fire Risk Assessment, Accident Prevention Procedure, Waste Storage Plan |
| **Document Holders:** | EMS Manual | | |

| | |
|---|---|
| N/A | Waste Storage Plan |
| N/A | Fire Risk Assessment |

**Emergency Procedure:**




Record all incidents or near-misses on EQMS-F010: Nonconformance, Corrective and Preventive Action

**Spills Emergency**

In the event of any emergency situation developing on site which may create an environmental risk, make contact with the following;

**NEIL BARRY (Facility Manager) 086 7707372**

In the event of an incident at the facility with the potential to impact surface water discharges, direct runoff to the leachate tanks, if full redirect the runoff to the contaminated water tanks, if further storage is needed, Call Tom Shanahan of Spotless Drains, Chris Molloy of Molloy Waste and Martin Lehane of Lehane Environmental who will provide vacuum tankers as a temporary storage measure in order to contain all runoff, until such time as the collected runoff can be transported to the nearest waste water treatment plant. Contact details for vacuum tanker equipment is listed below:

TOM SHANAHAN (Spotless drains) Phone 086 2550144
Chris Molloy (Molloy Waste) Phone 087 9794237
MARTIN LEHANE (Lehane Enviromental) Phone 021 4351020

**Air Abatement Emergency**

In the event of a breakdown of the air abatement system which could cause emissions to air contact Redwood Systems at:

Monique O Brien 086 0460774
Fergus O Brien 086 2460006
Liam O Brien 01 4596756

**General Emergency Contacts**

MEDICAL ASSISTANCE ; Dr CARMEL CONDON; 052 613 1631
FIRE BRIGADE; 999 or 112
GARDA SIOCHANA ; 052 613 1202

In the event of an incident the EPA must be contacted, as per condition 11.6 of licence W0270-02 and SOP MC11 Incident Notification Procedure. As part of the procedure the following must be completed;

1. **NOTIFY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) By phone and through EPA portal EDENIRELAND (Report Incident)**
   - **Kilkenny; Phone; 056 779 6700**
   - **Phone Lo Call ; 1890 335599**

**2. NOTIFY TIPPERARY COUNTY COUNCIL**

- **During Office Hours ; Phone 0761065000 Fax 067 33134**
- **Outside office hours ; Phone 1890 923948**

**3. NOTIFY THE DEPT. OF AGRICULTURE, FOOD & MARINE**

**Phone ; 062 34900 Fax ; 062 31406**

**4. NOTIFY INLAND FISHERIES IRELAND, CLONMEL**

**Phone ; 052 6180055 frank.odonoghue@fisheriesireland.ie**

**5. NOTIFY THE HEALTH AND SAFETY AUTHORITY**

**Phone ; 1890 289389 Fax ; 01 6147125**

**IN THE EVENT OF ACTIONS UNDERTAKEN TO RESOLVE ANY OF THE ABOVE, ALL ACTIONS MUST BE RECORDED UNDER THE HEADING "EMERGENCY ACTION REPORTS" IN THE DAILY REGISTER KEPT IN THE FACILITY OFFICE.**

# ATTACHMENT 1

## WASTE STORAGE PLAN

# STORAGE PLAN FOR MILLTOWN COMPOSTING SYSTEMS LTD. FACILITY, MILTOWNMORE, FETHARD, CO. TIPPERARY

**Prepared for:**

**Miltown Composting Systems Ltd.**
**Miltownmore,**
**Fethard,**
**Co. Tipperary.**

**Prepared By:**

**John Rea, B.Sc. MIEnv.Sc.**
**Project Manager**
**JRE Ltd.**

**3296**

**December 4th, 2019**

## 1. INTRODUCTION

Milltown Composting Systems Ltd. (Milltown) operate a composting facility at Miltownmore, Fethard, Co. Tipperary. In September 2019 a reviewed Industrial Emissions Licence (Ref. W0270-02) was granted by the Environmental Protection Agency (EPA) for the site. This Waste Storage Plan has been prepared in compliance with Condition 8.14 of the Industrial Emissions (IE) Licence W0270-02. Under condition 8.14; *The licensee shall, within three months of the date of grant of this licence, develop and thereafter maintain and implement a Waste and Materials Storage Plan for all waste, other feedstocks, compost, topsoil and other materials and waste water stored and held at the installation*.

### 1.1. Scope

The requirements of the waste storage plan are outlined in Condition 8.14.4 and must incorporate the following:

i) the recommendations of the Fire Risk Assessment required by Condition 9.6 of this licence;
ii) a limit on the total quantity of waste to be stored at the installation at any one time; (
iii) maximum stockpile sizes in designated storage areas or vessels including maximum volume, height, length, width and area, and minimum separation distances
iv) a limit on the maximum storage or holding period for each type of waste in designated storage areas or vessels;
v) limitations, as may be necessary, on waste storage arrangements to be used to prevent odours arising;
vi) a drawing or plan of the location of each waste type and the means of storage for each waste type (e.g. as loose waste, baled, in sealed containers);
vii) details of the drainage system super-imposed on the above drawing or plan; and
viii) a designated fire quarantine area that is available at all times to aid separation and management of wastes during a fire incident; and, is different to the quarantine area set aside for unacceptable wastes.

The various requirements of Condition 8.14.4 are addressed below.

## 2. MILLTOWN COMPOST PROCESS STORAGE AREAS

Based on the main waste storage areas at the facility the storage capacity at Milltown Composting for particular waste materials are outlined below. The locations of the storage areas are outlined on the site plan in Attachment 1 and the calculation of the storage capacities is provided in Attachment 2.

**PRIMARY PROCESSING AREA**

**Waste Reception Shed**

- **Waste Acceptance** –Organic material received at the facility is tipped in the covered waste reception building prior to being blended with wood chip or process overs and then transferred to the composting tunnels. Based on the floor area of the waste acceptance area the maximum volume of waste that could be stored in this area is 843 $m^3$.

- **Wood Chip** – wood chips which are used for blending, there is a storage capacity of 240 $m^3$ in the reception shed for this material.

**PRIMARY PROCESS AREA**

- **Compost Tunnels** – there are nine (9) primary processing bays/tunnels (A through I) which have a combined storage capacity of 2,583 $m^3$.

**SECONDARY PROCESS AREA**

- **Barrier Area -** The secondary processing area contains eight (8) secondary process tunnels (Tunnels 1 through 8) consisting of a combined storage capacity of 1,800$m^3$.

**MATURATION AREAS**

- **Shed 2 -** Processed material is moved to the aerated maturation area in Shed 2. The shed consists of 4 static piles for maturation (i.e., Rows 1 – 4). And consists of approximately 1,144$m^3$ of material in each row (i.e., Total maximum capacity of 4,576$m^3$).
- **Shed 3 –** Shed 3 has two (2) aerated static pile areas with a capacity of approximately 1,296$m^3$ between them. There are also 2 maturation static pile areas that have a combined capacity of 1,971$m^3$. There are also 3 areas in shed 3 for the storage of overs and screened plastic material removed by the trommel system from the screening of matured material. Overs Area 3 stores screened overs overflow and plastics with a storage capacity of 300$m^3$. Overs Area 2 at screener 2 has a storage capacity of 45$m^3$ and the Overs 1 Storage Area located at the back of the screener has a storage capacity of 300$m^3$.

**FINAL STORAGE – SHED 4**

- **Final Storage** –Once the material has completed the maturation process it is screened to remove the main contaminants (e.g., plastics) and oversize material (Overs). There are two areas under the trommel where screened material is temporarily stored (i.e., Under Screen Area 1 and Under Screen Area 2) with a combined capacity of 113$m^3$. This screened material is transferred from under the trommel to one of the two dedicated finished material storage areas in Shed 4 with a combined capacity of 900$m^3$. There are two main storage areas in shed 4 and Shed 3 for storage.

## 3. WASTE STORAGE

### 3.1. Recommendations of the Site Fire Risk Assessment

Based on the most recent fire risk assessment completed at the Milltown Composting facility the following recommendations and associated works were made to provide improved fire protection at the facility.

- It is recommended that a fire detection system (e.g., flame recognition camera) be put in place at areas that are considered to have a higher potential for fire risk (e.g., around the screener or at fuel storage area) that would alert the facility manager and emergency services of a fire at the site. Installation of smoke alarms, heat lines and/or flame recognition systems at the site would improve the fire detection capabilities of the site.

**The fire detection system as outlined on the fire risk assessment was installed and commissioned by Horizon Safety on the 14th of September 2018.**

- The current firewater storage tank is located on the south side of the process building. This tank could be used in the event of a fire but access to the facility buildings from the south is limited and would require the mobile bowser to travel around the east side of the building to access water. It is recommended that the firewater tank be relocated to the north of the facility building where it can be quickly accessed in the event of a fire. It is noted that the tank can hold approximately 70 $m^3$, it may be prudent to have a second firewater storage tank available as backup in the event of a larger fire event.

**Miltown retained the 70$m^3$ water storage tank on the south side of the buildings and installed a second 48$m^3$ water storage tank to the north of shed 1 (completed on the 10th of October 2018).**

- It is recommended that the recommended maximum pile size (300$m^3$ for plastics and wood and 450$m^3$ for finished compost – max height 4m) and storage time (in general 3 months for wastes whose particle size has been reduced) as outlined in the EA Fire prevention plans (9th November 2016) and Waste Industry safety and health forum (2nd April 2017) be adhered to for all wastes stored before and after the active composting phase.

**The maximum pile sizes outlined above and in WISH 2017 will be adhered to in the facility. A Site Drawing showing the location of storage areas is provided in Attachment 1 and a table showing the calculated maximum storage capacity at each designated area in the facility is provided in Attachment 2. The size and minimum·separation distances for stockpiles are also outlined in the 'Safe Storage of fire risk materials log which is incorporated into the 'Combustible materials safety procedure', see Attachment 4.**

- It is recommended that a site plan showing access points to buildings for emergency services and locations of fire suppression equipment (e.g., extinguishers and fire water tanks) be created and placed in a prominent outside area of the site (e.g., on the outside wall of the site office or the reception building.

**A laminated site plan showing access points to the facility and facility buildings and the location of fire suppression equipment is in place outside the site office. A copy of the Fire Point Plan is provided in Attachment 3.**

### 3.2. Total Quantity of Waste to be Stored at the Installation at Any One Time

The maximum quantity of waste that can be stored on-site at any one time has been calculated to be 11,970 tonnes when using the Overs 3 bay in shed 3 as storage for overs material and 12,120 tonnes if the Overs 3 bay is used for the storage of biostabilised organic material, see Table C in Attachment 2. The total capacities of each designated waste storage area in the facility is outlined in the Table in Attachment 2.

### 3.3. Maximum Stockpile Sizes and Separation Distances

Based on the Environment Agency 2016 Guidance for Fire Prevention Plans, the main materials that Milltown Compost would need to control in terms of stockpile size and separation distances would be related to waste material in the reception building prior to transfer to the primary processing bays, the

storage of screened oversize materials and the biostabilised organic fines material following the maturation and screening processes.

In section 9.1 of the UK Environment Agency 2016 Guidance for Fire Prevention Plans there are maximum pile sizes outlined for compost and green waste (excluding during the active composting process) of 450 $m^3$ for material both between 30mm and 150 mm and less than 30mm.

Section 10.3 of the guidance states that for composting activities, the maximum pile sizes don't apply when the waste is actively managed and monitored during the composting process and that it would only be waste materials stored before and after composting that must comply with the maximum pile sizes. The waste material in the Milltown facility is being processed for the majority of the time it is on site (i.e., primary composting in bays and maturation process in the sheds 2, 3 & 4) and is monitored (i.e., temperature readings) and controlled (i.e., forced air input to composting bays and turning of maturation piles) until such time as stability is confirmed by AT4 testing and the material is screened. During these active composting processes the material would not be required to meet the maximum stockpile criteria according to the 2016 EA Guidance.

#### *3.3.1. Waste Reception*

All waste material in the reception building is mixed and transferred to a process bay upon the material being received (i.e., within 12 hours) and so there is no extended storage of waste material in that area. Wood chip amendment material used for blending with the feedstock is also stored in a dedicated concrete bunker in the reception building, the width of the bunker is 8m which is less than the 10m maximum width for bunkered waste suggested in WISH 2017.

#### *3.3.2. Storage of Screened Oversize Materials*

Waste materials in Shed 3 are monitored closely and rotated regularly (as per Combustible Materials Safety Procedure – See Attachment 4) and separation distances adhered to for both oversize overs and compost/stabilised organic fines in shed 3 (as per WISH 2017 -4.3 Summary tables of standard stack separation distances and stack sizes). It is also ensured that stockpiles are less than 450 $m^3$ for compost/organic fines waste and 300$m^3$ for screened plastics and wood (less than 30mm) put forward in the 2016 EA Guidance document.

The maximum stockpile sizes in designated storage areas including maximum volume, height, length, width and area and minimum separation distances are outlined in the Combustible Materials Safety Procedure in Attachment 4 and the Maximum Storage Capacity Table in Attachment 2.

### 3.4. Maximum Storage or Holding Period for Wastes

Section 5.4.3 of the 2017 WISH guidance outlines in general the maximum storage time that shredded and similarly treated wastes (wastes whose particle size has been reduced) that corresponds closely with the wastes stored on the site (oversize materials, Compost (CLO) and wood chip) should be stored to reduce the potential for spontaneous combustion. The timeframes set in the guidance is outlined in Table A below.

**Table A – Storage Times Outlined in Section 5.4.3 of WISH, 2017**

| Guidance Document | Maximum Storage Time |
|---|---|
| Section 5.4.3 of the Waste industry Safety and Health Guidance, 2017 | **3 Months** - Shredded and similarly treated wastes (that is wastes whose particle size has been reduced |
| Section 5.1 of the Environment Agency Technical Guidance Note (TGN7.01) | **6 Months** - Green material, wood and wood products, general waste including RDF and fines |

All oversize material is stored in its designated storage area as per 'Combustible materials safety procedure', including rotation, temperature monitoring and maximum storage period of 3 months. All screened fines material at the Milltown facility is stored internally, monitored weekly for temperature and moisture while awaiting dispatch/ shipment for use as landfill cover (records are kept of all monitoring including turning in the event of temperature build up). All processing material is rotated through the process on an on-going basis and as such there is no material on the Milltown site that would be stored in excess of 3 months. Milltown transfer all stabilised organic waste from the site in less than the 3 months recommended storage period, which would not be considered a prolonged storage period. In the event that finished compost has to be stored further pending shipment Milltown will put a procedure in place which will include weekly temperature monitoring, daily moisture monitoring and turning in the event of temperature build up.

### 3.5. Limitations on Storage to Prevent Odour Nuisance

All waste materials on-site including processing materials and materials before and after the active composting phase are managed to prevent odours as per the conditions of waste license W0270-02. Any leachate runoff from the process is circulated into a sealed tank for reuse. This reduces the potential for odour emissions as required under Condition 3.10.8 and allows for the re-circulation of the leachate back to the process bays.

All waste materials are stored inside the facility building and have air extraction systems linked to an odour abatement system (i.e., biofilter) to reduce potential odour nuisance. Upon arrival waste materials are mixed and moved to a process bay to avoid any odour issues in the reception area. All materials during the process period are stored to ensure that they are aerated (either by forced air system or turning) to reduce the build-up of odourous compounds and provide conditions for an optimum process timeframe.

### 3.6. Drawing of Waste Storage Areas & Site Drainage

Runoff from the process and storage areas inside the facility building is collected to a dedicated drainage system along with biofilter condensate and is re-circulated back through the process. No process runoff is allowed to migrate from inside the facility building to the surface water drainage system. Clean surface water from the facility buildings roofs and the external yard area is directed to the surface water collection system. In the unlikely event of a spill or discharge (e.g., fire water) to the surface water drainage system a diversion valve is in place whereby discharge is diverted to the on-site fire water lagoon. A site drawing showing the waste storage areas on site and the site drainage system is provided in Attachment 1.

### 3.7. Details of Fire Quarantine Area

A Fire Point Map is provided in Attachment 3 indicating the location of the designated fire quarantine area for the separation and management of wastes during a fire incident. This fire quarantine area is separate from the waste quarantine area that is used for the removal and storage of unacceptable waste materials received at the site.

### 3.8. Waste Storage Practises

All wastes processed on site are stored for the minimal amount of time possible to ensure that material is constantly moved through the process. Any storage on site should take place in designated areas and in areas delineated from others by physical structures (i.e., walls) or delineated by distance (i.e., fire breaks). The internal facility layout showing storage areas is provided in Attachment 1.

### 3.9. Labelling of Areas

All areas where waste is stored shall be;

- Clearly labelled
- Appropriately segregated
- Visibly/physically delineated by walls, dividers, markers on the ground or painted lines

All primary and secondary process areas where material is stored and processed on site is physically delineated by dividing walls and concrete dividers. Areas where material is temporarily stored on the open floor (e.g., waste reception and screened plastics) are stored in separate areas with a physical separation between these areas and other areas of the facility.

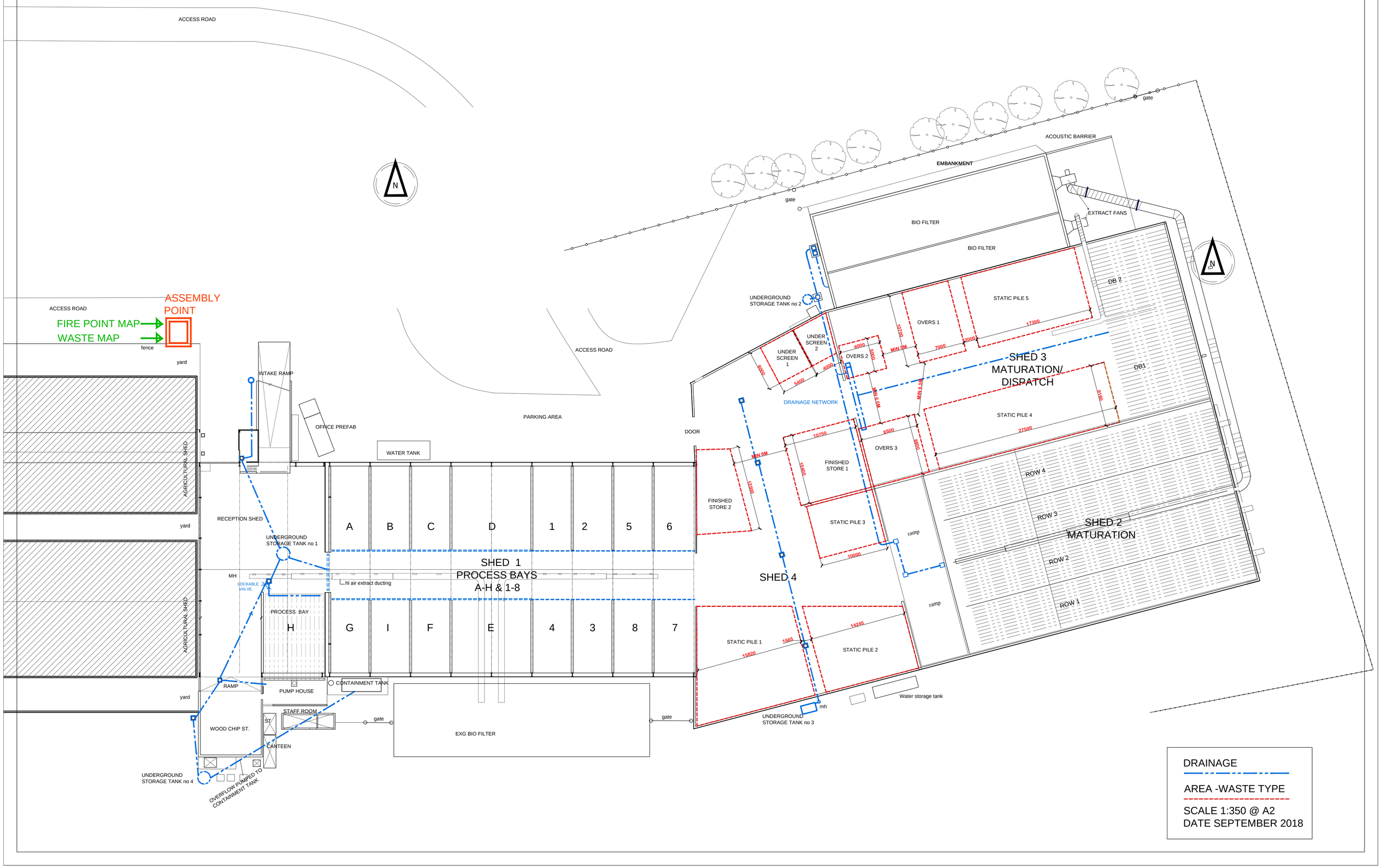
### 3.10. Emergency Response Procedure

An up to date copy of this storage plan will be included in the Emergency Response procedure for the Milltown Composting facility.

# ATTACHMENT 1

## Milltown Waste Storage Plan - Site Layout

# MILTOWN WASTE STORAGE MAP



# ATTACHMENT 2

## Calculated Storage Capacities for Milltown Composting

# Waste Storage Plan - Milltown Composting Maximum Storage Capacity Table

| Area Ref. | Floor Area | Max Stockpile Height (m) | Volume ($m^3$) | Estimated Tonnage | Dimensions in m W x D x H | Separation distance as per WISH 2017 |
|---|---|---|---|---|---|---|
| **Reception Area** | | | | | | |
| Reception Area | 281 $m^2$ | 3 | 843 $m^3$ | 632 | | N/A |
| Wood Chip Storage | 80 $m^2$ | 3 | 240 $m^3$ | 48 | | N/A |
| **Primary Processing Area - Composting** | | | | | | |
| Process Tunnel A | 75 $m^2$ | 3 | 225 $m^3$ | 168.75 | | N/A |
| Process Tunnel B | 75 $m^2$ | 3 | 225 $m^3$ | 168.75 | | N/A |
| Process Tunnel C | 75 $m^2$ | 3 | 225 $m^3$ | 168.75 | | N/A |
| Process Tunnel D | 150 $m^2$ | 3 | 450 $m^3$ | 337.5 | | N/A |
| Process Tunnel E | 150 $m^2$ | 3 | 450 $m^3$ | 337.5 | | N/A |
| Process Tunnel F | 75 $m^2$ | 3 | 225 $m^3$ | 168.75 | | N/A |
| Process Tunnel G | 75 $m^2$ | 3 | 225 $m^3$ | 168.75 | | N/A |
| Process Tunnel H (new process bay) | 111 $m^2$ | 3 | 333 $m^3$ | 249.75 | | N/A |
| Process Tunnel I | 75 $m^2$ | 3 | 225 $m^3$ | 168.75 | | N/A |
| **Secondary processing Area** | | | | | | |
| Process Tunnel 1 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |
| Process Tunnel 2 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |
| Process Tunnel 3 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |
| Process Tunnel 4 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |
| Process Tunnel 5 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |
| Process Tunnel 6 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |
| Process Tunnel 7 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |
| Process Tunnel 8 | 75 $m^2$ | 3 | 225 $m^3$ | 157.5 | | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Compost Maturation Area** | | | | | | |
| Shed 2 – Row 1 | 286 $m^2$ | 4 | 1144 $m^3$ | 800 | | N/A |
| Shed 2 - Row 2 | 286 $m^2$ | 4 | 1144 $m^3$ | 800 | | N/A |
| Shed 2 - Row 3 | 286 $m^2$ | 4 | 1144 $m^3$ | 800 | | N/A |
| Shed 2 – Row 4 | 286 $m^2$ | 4 | 1144 $m^3$ | 800 | | N/A |
| Shed 3 – aerated pile 1 | 162$m^2$ | 4 | 648 $m^3$ | 453.60 | | N/A |
| Shed 3 – aerated pile 2 | 162$m^2$ | 4 | 648 $m^3$ | 453.60 | | N/A |
| Shed 3 – Maturation static pile 4 | 302.5 $m^2$ | 4 | 1210 $m^3$ | 847 | | N/A |
| Shed 3 – Maturation Static pile 5 | 190.3 | 4 | 761.2$m^3$ | 533 | | N/A |
| South side Shed 4 –Maturation Static pile 1 | 260.5 | 4 | 1042$m^3$ | 729.5 | | N/A |
| South side Shed 4 –Maturation Static pile 2 | 260.5 | 4 | 1042$m^3$ | 729.5 | | N/A |
| South side Shed 4 –Maturation Static pile 3 | 110 $m^2$ | 4 | 440 $m^3$ | 308.00 | | N/A |
| **Compost Storage Area** | | | | | | |
| Finished Compost storage 1 - **North (East) Shed 4** | 112.5 | 4 | 450 $m^3$ | 315 | 10.46 x 10.75 x 4 | 7.5m |
| Finished Compost storage 2 - **North Shed 4** | 112.5 | 4 | 450 $m^3$ | 315 | 9 x 12.5 x 4 | 8m |
| Finished Compost storage under screen - **North Shed 4** | 32.4 | 2 | 65 $m^3$ | 45.5 | 5.4 x 6 x 2 | 5.4m |
| Finished Compost storage 2 under screen - **North Shed 4** | 24 | 2 | 48 $m^3$ | 33.6 | 4 x x6 x 2 | 4m |
| Oversize (overs) Storage Area | | | | | | |
| Overflow (overs 3) storage area (Combustibles storage area (A,B & C) **south side shed 3** | 74.8 | 4 | 300 $m^3$ | 60 | 8.8 x 8.5 x 4 | 6.5 |
| Overs (overs 1) Storage Area at back of screen | 74.9 $m^2$ | 4 | 300 $m^3$ | 60 | 10.7 x 7 x 4 | 6.5 |
| Overs (overs 2) Storage Area at Screener 2 | 30$m^2$ | 1.5 | 45 $m^3$ | 9 | 6 x 5 x 1.5 | 5 |

**Table B: Maximum Tonnage Stored on Site For Process Materials**

| PROCESS MATERIALS | | | | Total tonnes with overs 3 used for overs storage | Total tonnes with overs 3 used for maturation or compost storage |
|---|---|---|---|---|---|
| | **Volume ($m^3$)** | **Bulk Density Factor ($t/m^3$)** | **Tonnage** | | |
| Waste Reception Area | 843 | 0.75 | 632 | | |
| Primary Process area | 2583 | 0.75 | 1,937 | | |
| Secondary Process area | 1800 | 0.7 | 1,260 | | |
| Maturation area | 10367 | 0.7 | 7,255 | 11084 | 11084 |

**Table C: Maximum Tonnage Stored on Site For Non-Process Materials**

| NON-PROCESS MATERIALS | | | | | |
|---|---|---|---|---|---|
| | **Volume ($m^3$)** | **Bulk Density Factor ($t/m^3$)** | **Tonnage** | | |
| Wood Chip | 240 | 0.2 | 48 | | |
| Final Compost/Fines Storage | 1013 | 0.7 | 709 | | |
| Screened Overs (2) at screen | 45 | 0.2 | 9 | | |
| Screened Overs (1) in **shed 3** | 300 | 0.2 | 60 | | |
| Screened Overs (3) in shed 3 | 300 | 0.2 | 60 | 886 | |
| If overs 3 is not neededd for overs it can be used for maturation/compost storage | 300 | 0.7 | 210 | | 1036 |
| Total Maximum Storage Tons | | | | 11970 | 12120 |

# ATTACHMENT 3

## Milltown Composting – Fire Point Site Plan

# MILTOWN COMPOSTING SYSTEMS
# FIRE POINT MAP

1 3 6 9lt FOAM EXTINGUISHERS

2 4 7 8 9 9 kg POWDER EXTINGUISHERS

10 11 6 kg POWDER EXTINGUISHERS

12 13 FIRE BLANKETS

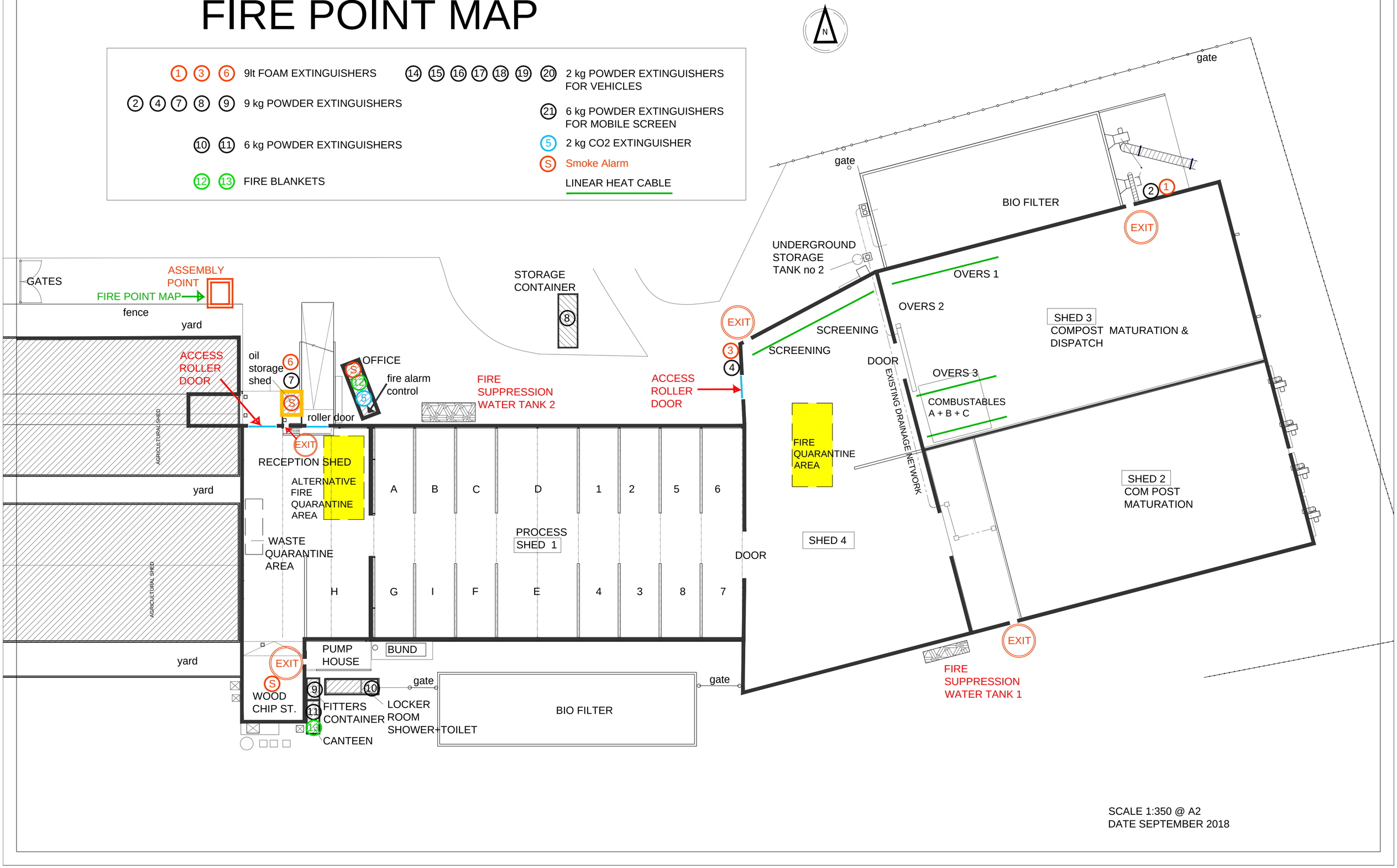
14 15 16 17 18 19 20 2 kg POWDER EXTINGUISHERS FOR VEHICLES

21 6 kg POWDER EXTINGUISHERS FOR MOBILE SCREEN

5 2 kg CO2 EXTINGUISHER

S Smoke Alarm

LINEAR HEAT CABLE

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DATE SEPTEMBER 2018

# ATTACHMENT 4

## Combustible Materials Safety Procedure

Attachment C.

| MILTOWN COMPOSTING LTD | Title: Combustible materials safety procedure<br>Code: SOP MC14<br>Issue Date: 24/08/2018<br>Issued by: DM<br>Revision: 1<br>Revised by: DM<br>Date: 29/08/18<br>Site Location: Miltownmore, Fethard, Co. Tipperary |
|---|---|

# Combustible materials safety procedure

## 1. Objectives

- To ensure that all combustible materials are safely stored on site
- To ensure fire safety at the screener

## 2. Responsibility

- Plant Manager
- Site Operators

## 3. Equipment/ records

- Hand held temperature probe
- Miltown Composting Facility Safe storage of combustible materials Log
- Weekly inspection log
- Safe storage of fire risk materials log
- Screen cleaning and maintenance log

## 4. Procedure

- Operator to note the date of production of 100m³ (= 1 truck full) of overs at screen on the Safe storage of fire risk materials Log (the noted date will be the identification number of this 100m³ batch, e.g. 180818)
- Operator to note on log the date when the 100m³ batch of overs at screen are dispatched to landfill
- If trucks are not available Operator to note on log the date when and to which storage bay the 100m³ batch is loaded into, either A, B or C
- Operator to note on log date when the 100m³ batch of overs in storage areas A, B or C are dispatched to landfill.
- If storage is required for a period of one month in storage areas A, B or C. Operator to rotate material from one bay to another, noting the date, and from which and to which bay the material has been moved. Also noting that all material in the bay has been rotated and not compacted (no overs to be onsite more than 3 months)

- Operator to note on log date when 100m³ batch of overs in storage areas A, B or C are dispatched to landfill, noting that all material in the bay has been cleaned out
- Plant manager to audit the Safe storage of combustible materials Log weekly
- Plant manager to carry out a visual weekly inspection of combustible storage areas, thermal probe to be used to check temperatures in any storage area where material is stored longer that 2 weeks and noted on the Safe storage of fire risk materials log
- Plant manager to audit weekly 'Screen cleaning and maintenance log'
- Plant manager to carry out a weekly visual inspection of the diesel/oil storage shed noting that all combustibles are safely stored within.

## 5. Reference Documents

- Waste licence W0270-01 (Condition 6.3.4)
- Technical amendment A to Waste Licence W0270-01
- EA fire prevention plans 09/11/2016
- Waste Industry safety and health forum (WISH) 02/04/2017
- Fire Risk assessment at Miltown Composting facility 02/11/2017

**Safe Storage of fire risk materials Log**

| 100m³ at screen | Loaded to combustibles storage area (8.5x9x4m) - Never drive on or compact materials | | | | | | Turned/ Rotated at least monthly (no compaction)- cleaned to back wall | | | Row - cleaned to back wall/100m³ Sent to Landfill | | | 6.5m Separation distance to other combustibles | 2m Separation distance to Non-combustibles | | Weekly | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A (2.83x9x4m) | | B (2.83x9x4m) | | C (2.83x9x4m) | | | | | | | | | | | Audit by | Date | Temps Notes |
| Date | Date | Sign | Date | Sign | Date | Sign | Row to Row | Date | Sign | Row | Date | Sign | | | | | | |
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# Screen Cleaning & Maintenance Log

Weekly

| Week..... | Mon | Tue | Wed | Thu | Fri | Sat | Audit by | Date |
|---|---|---|---|---|---|---|---|---|
| Daily Clear out of debris after use | | | | | | | | |
| Weekly Clean/wash down of dust/debris from screener | | | | | | | | |
| Weekly Clean of spillage from barrell wheels | | | | | | | | |
| Weekly clean of all hydraulic motors & conveyor head and tail drums | | | | | | | | |
| Weekly clean of all dust/debris form ganways, side sheeting and walls | | | | | | | | |
| Week..... | Mon | Tue | Wed | Thu | Fri | Sat | | |
| Daily Clear out of debris after use | | | | | | | | |
| Weekly Clean/wash down of dust/debris from screener | | | | | | | | |
| Weekly Clean of spillage from barrell wheels | | | | | | | | |
| Weekly clean of all hydraulic motors & conveyor head and tail drums | | | | | | | | |
| Weekly clean of all dust/debris form ganways, side sheeting and walls | | | | | | | | |
| Week..... | Mon | Tue | Wed | Thu | Fri | Sat | | |
| Daily Clear out of debris after use | | | | | | | | |
| Weekly Clean/wash down of dust/debris from screener | | | | | | | | |
| Weekly Clean of spillage from barrell wheels | | | | | | | | |
| Weekly clean of all hydraulic motors & conveyor head and tail drums | | | | | | | | |
| Weekly clean of all dust/debris form ganways, side sheeting and walls | | | | | | | | |
| **Comments / Corrective Actions** | | | | | | | | |

| Miltown Composting Systems | **Title:** Waste Acceptance and Characterisation Procedure<br>**Code:** SOP MC01<br>**Revision:** 8<br>**Revised By**: JR<br>**Date:** 30/04/2022<br>**Site Location:** Milltownmore, Fethard, Co. Tipperary |
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## WASTE ACCEPTANCE AND CHARACTERISATION PROCEDURE

### 1. Objectives

- Ensure waste processed on site is suitable for composting and characterised correctly
- Waste unsuitable for composting is identified, isolated, and controlled

### 2. Responsibility

- Facility Manager
- Weighbridge Operators

### 3. Procedure

3.1 Before new waste is proposed to enter the site, pre-clearance is sought from the customer which must include; description and origin of the waste, analysis (if requested). The Environmental/Technical manager will determine the EWC code for the waste and its ABP status. An internal Waste Classification form is filled out to classify the waste.

3.2 Prior to acceptance of a waste material load at the site the site manager must determine that the facility has the capacity to accept and process that material. If the facility is at capacity the load must be postponed or cancelled.

3.3 Any additional information (e.g. analysis) is retained along with the classification form for reference purposes.

3.4 Once preclearance is given, waste is allowed enter the site and is weighed in at the weighbridge.

3.5 All receptacles (trailers/tankers etc.) entering the site must be covered and sealed. Trucks are directed to the waste acceptance area. An operator then signals to the driver when it is clear to tip waste. The load is visually inspected to ensure that it is consistent with the details provided in the waste classification form and, assuming is consistent, is cleared to process

3.6 If the waste is not cleared to process because of suspected non-conformity with the waste classification form the plant manager is informed immediately. Following an immediate assessment of the suspected non-conforming load the plant manager will either pass the load for processing or direct the load to be reloaded and removed from the site. All plant and machinery that came in contact with the waste will be thoroughly cleaned.

3.7 Where a load is confirmed to be non-conforming, the non-conformance and corrective action record sheet (RS MC07) is filled in and all details and actions taken recorded in same.

3.8 Once acceptance is complete the weighbridge operator directs the driver to the weighbridge. The truck is weighed out and a detailed receipt is given to the driver.

### 4. Reference Documents

- Waste License: W0270-01
- DAFM, APPROVAL AND OPERATION OF COMPOSTING PLANTS TRANSFORMING ANIMAL BY-PRODUCTS AND DERIVED PRODUCTS IN IRELAND issued the 8th May 2014
- Waste ABP Classification and Acceptance Form

- Process Flow Diagram

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| **MILTOWN COMPOSTING LTD** | Title: Non conformance and corrective action<br>Code: SOP MC07<br>Revision: 7<br>Revised by: DM<br>Date: 22/03/2016<br>Site Location: Miltownmore, Littleton, Co. Tipperary |

# NON CONFORMANCE AND CORRECTIVE ACTION

## 1. Objectives

- To ensure all non conformances with licence conditions, DAFF requirements, Miltown Composting procedures etc are recorded.
-To ensure all non conformances are investigated thoroughly and the 'root cause(s)' determined
-To ensure appropriate actions are carried out to prevent the reoccurrence of non conformances.

## 2 . Responsibility

- Plant Manager
- Deputy Manager

## 3. Procedure

### 3.1 Detection

Non conformances will be detected from the following sources;

- Environmental and Product Monitoring results
- Process control procedures
- Audit Findings
- Complaints (Although not necessarily a non compliance any complaint will be recorded and examined using this procedure.

### 3.2 Corrective Action

- The Plant Manager is informed of the non-conformance. All staff are made aware of all procedures and critical controls relating to their area of work.
- The Plant Manager will investigate the circumstances surrounding the non-compliance (a staff member involved in the area of work may be designated to carry out this investigation and report back to the Plant Manager). The purpose of the investigation is to determine the root cause(s) of the non conformance.
- The Plant Manager will fill out the non conformance and corrective action record sheet. Here the Plant Manager will detail the causes of the non conformance and detail the corrective actions to be taken.
- The Plant Manger will determine whether or not the non-conformance must be brought to the attention of any licensing authority (for example DAFF will need be informed in the event that the compost samples fail microbiological testing).

## 4. Reference Documents

- Waste License: W0270-01
- Process Flow Diagram
- Conditions for approval and operation of composting plants transforming animal by- products and derived products in Ireland – issued 8th of May 2014

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| **MILTOWN COMPOSTING LTD** | Title: Non conformance and corrective action<br>Code: SOP MC07<br>Revision: 7<br>Revised by: DM<br>Date: 22/03/2016<br>Site Location: Miltownmore, Littleton, Co. Tipperary |

# Non Conformance and Corrective Action Record Sheet

## Non Conformance

- ☐ Environmental and Product Monitoring results
- ☐ Process control procedures
- ☐ Audit Findings
- ☐ Complaints
- ☐ Other

## Corrective Action

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| **MILTOWN COMPOSTING LTD** | Title: Accident Prevention Procedure<br>Code: APP<br>Issue Date: 8th July 2016<br>Issued by: DM<br>Revision: 0<br>Revised by:<br>Date:<br>Site Location: Miltownmore, Fethard, Co. Tipperary |

# Accident Prevention Procedure (APP)

## APP Requirement

9.2 The licensee shall ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

## 1. Objectives

The APP shall identify all hazards and risks on site and ensure the necessary measures are taken to prevent accidents with a possible adverse impact on the environment and to limit their consequences when accidents do occur.

## 2. Responsibility

- Plant Manager
- Site Operators

## 3. Procedure - identify all hazards and risks

1. **Fire – Waste storage**
2. **Fire – Plant**
3. **Fire - Electrical**
4. **Spillage – Leachate and Contaminated Water Management**

### 3.1 Fire - Waste Storage

- Inspect composting and curing piles to ensure adequate moisture – record in Daily Inspection log
- Ensure adequate separation of compost, oversized, erratic and woodchip piles – record in weekly inspection log
- Inspect Static Piles/Windrow's to ensure compost, oversized and erratic piles are not compacted – see SOP MC04 and ABP SOP #5 ( *Never drive on the maturing compost when turning the piles to prevent compaction)*, see also the **Safety Statement, 3. Fire Hazards** Check erratic's weekly ensuring material is not compacted, remove the longest stored material first, Never drive on erratic's and turn at least monthly. Record in weekly inspection log.

**3.2 Fire – Plant**

- Ensure safe storage of combustible and flammable materials as per Weekly inspection Log
- Ensure the Prevention of mobile sources of ignition in areas with combustible and flammable materials – see Safety Statement - 5. Electrical equipment / tools
- Ensure Loaders, tractor and compressor are cleaned and maintained as per Cleaning and Maintenance Log.
- Ensure all fan's/blowers are working properly and free of debris as per Weekly Inspection Log
- Ensure the screener is inspected daily and cleaned as necessary as per Cleaning and Maintenance Log
- Ensure Fire extinguishers are in place and operational as per Weekly Inspection Log and Fire Safety Register

**3.3 Fire – Electrical**

- Ensure Co2 fire extinguisher is in place and operational as per Weekly Inspection Log and Fire Safety Register

3.4 **Spillage – Leachate and Contaminated Water Management**

- Ensure All pumps sumps, storage tanks from which spillage of environmentally significant materials might occur are fitted with high liquid level alarms and checked weekly - see Weekly Inspection Log
- Ensure the underside and wheels of vehicles delivering waste or other materials into the reception area shall be washed and disinfected upon departure from the building - See SOP MC03 Cleaning and Hygiene Procedure and signed off by the driver – see Raw Material Intake Log :
- Ensure the Integrity of contaminated water over-ground pipes – see Weekly Inspection Log
- Ensure the Integrity of Bunds for the Screener motor and hydraulic hoses– see Weekly Inspection Log
- Ensure an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility – see Weekly Inspection Log
- Ensure Only Skilled operatives operate pumps, Tractors and Slurry tankers, Never leave operating machinery unattended - See Safety Statement and Cleaning and Maintenance Log

## 4. Any accidents/incidents that do occur on site should be fully investigated. The investigation should include the following:

- Documentation of what occurred
- The root cause of the event
- A summary of the response actions taken
- A summary of the impact on the environment
- Identification of lessons regarding prevention of reoccurrence and in terms of response to future events.
- The APP should be reviewed after any accident/incident to ensure it is still fit for purpose

## 5. In the event that an emergency situation or accident is also a notifiable incident

Refer to the **Incident Notification Procedure**

And the **EMERGENCY RESPONSE PROCEDURE**

## Reference Documents

- Waste licence W0270-01
- **EPA 2016 Guidance to Licensees on the Preparation of Accident Prevention Procedures and Emergency Response Procedures**
- EPA Guidance to Licensees/COA holders on the Notification, Management and Communication of Environmental Incidents
- Safety Statement 2016-2018
- Weekly inspection Log
- Cleaning and Maintenance Log.
- Daily Inspection log
- Fire Safety Register
- SOP MC04 : Leachate Handling Procedure
- SOP MC03 Cleaning and Hygiene Procedure
- SOP #5: Quarantine, Maturation & Screening
- Raw Material Intake Log