

Unit 15  
Melbourne Business Park  
Model Farm Road  
Cork T12 WR89



T: 021 434 5366  
E: admin@ocallaghanmoran.com  
[www.ocallaghanmoran.com](http://www.ocallaghanmoran.com)

## DECOMMISSIONING MANAGEMENT PLAN

**ERAS ECO LIMITED**

**FOXHOLE**

**YOUGHAL**

**CO. CORK**

**Prepared For: -**

ERAS ECO Ltd  
Foxhole  
Youghal  
Co. Cork

**Prepared By: -**

O' Callaghan Moran & Associates  
Unit 15  
Melbourne Business Park  
Model Farm Road  
Cork

**May 2020**

Project	Decommissioning Management Plan			
Client	ERAS ECO Ltd.			
Report No	Date	Status	Prepared By	Reviewed By
1519301	27/03/2017	Initial Client Comment	Martina Gleeson PhD.	Jim O'Callaghan MSc, CEnv, MCIWM, IEMA
	05/04/2017	Final		
	09/01/2020	Rev A		
	20/04/2020	Rev B		
	18/05/2020	Rev C		

For inspection purposes only.  
Consent of copyright owner required for any other use.

---

**TABLE OF CONTENTS**

---

	<u>PAGE</u>
<b>1. INTRODUCTION</b> .....	<b>1</b>
1.1 ACTIVITY DETAILS.....	1
1.2 SITE DESCRIPTION .....	1
1.3 COMMENCEMENT OF OPERATIONS .....	1
1.4 CLOSURE SCENARIO AND SCOPE .....	2
1.5 RESTORATION AND AFTERCARE PLAN .....	2
1.6 LIMITATIONS .....	2
<b>2. SITE EVALUATION</b> .....	<b>3</b>
2.1 OPERATOR PERFORMANCE .....	3
2.2 ENVIRONMENTAL PATHWAYS & SENSITIVITIES .....	4
2.3 SITE PROCESSES & ACTIVITIES .....	5
2.4 PLANT INVENTORY .....	5
2.5 INVENTORY OF RAW MATERIALS AND WASTES .....	7
<b>3. CLOSURE TASKS &amp; PROGRAMMES</b> .....	<b>9</b>
3.1 CLOSURE TASKS .....	9
3.2 CLOSURE PROGRAMME.....	10
<b>4. CRITERIA FOR SUCCESSFUL CLOSURE</b> .....	<b>12</b>
<b>5. CLOSURE PLAN VALIDATION</b> .....	<b>13</b>
5.1 CLOSURE AUDIT & VALIDATION REPORT .....	13
<b>6. CLOSURE PLAN COSTING</b> .....	<b>14</b>
APPENDIX 1           -       PHOTOGRAPHS	
APPENDIX 2           -       STORAGE PLAN	

---

## 1. INTRODUCTION

---

### 1.1 Activity Details

The ERAS ECO Ltd (Eras Eco) biological treatment plant at Foxhole, Youghal operates under an Industrial Emissions Licence (W0211-02) issued by the Environmental Protection Agency (Agency).

Under the original licence Eras Eco accepted municipal sewage sludge and industrial wastewater treatment plant sludges for treatment. The treatment process comprised drying, with the treated sludge then exported. In July 2018 Eras Eco stopped accepting and drying sludges and does not intend to resume this activity. The current licence approves the operation of an anaerobic digestion plant and this is the only waste activity that is on-going.

Condition 10.2.1. of the licence requires the submission of a revised Decommissioning Management Plan (DMP) for approval by the Agency. A DMP was submitted to the Agency in 2017 and Eras Eco requested O'Callaghan Moran & Associates to revise and update the ELRA to reflect operational changes.

### 1.2 Site Description

The site is located on reclaimed land in an area zoned for industrial development and encompasses approximately 1.6 hectares (ha). It comprises two waste processing buildings (Building 1 and Building 2), two anaerobic digesters, a digestate storage tank, an administrative office building, decommissioned wastewater treatment plant and open yards.

### 1.3 Commencement of Operations

Historical reclamation work in this area has resulted in made ground with a proven thickness of up to 3m. Site investigations identified the made ground to be predominately clay with small portion of construction and demolition waste.

The site was initially used by Youghal Town Council to store diesel for vehicles operating on the adjacent Youghal Landfill. It is understood the tanks were located in the vicinity of the current site entrance.

Youghal Waste Disposal & Recycling Ltd acquired a 35-year lease the landowners Youghal Town Council, before subletting it to AVR Environmental Solutions Ltd. In 2001, planning permission was granted for the construction of a waste transfer station (Ref No. S/00/7093, 30<sup>th</sup> August 2001) and in 2005 permission was granted for the construction of a sludge treatment facility (Ref No. S/04/7531 04<sup>th</sup> February 2005).

Eras Eco Ltd was established to compensate for the lack of recovery facilities within Ireland. In particular, its focus was the treatment of wastewater treatment plant (WWTP) sludges and the recovery of Commercial and Industrial (C&I) wastes. Eras Eco Ltd acquired the plant in 2006.

The original Waste Licence was granted in November 2006 and the facility was constructed and commissioned in 2007.

In 2013 Eras Eco suspended the acceptance and transfer of C&I wastes. A revised Industrial Emissions licence was granted in July 2018. Also in July Eras Eco stopped accepting and drying/stabilising WWTP sludges and in 2019 the sludge drying equipment, odour control system and wastewater treatment plant were decommissioned.

#### **1.4 Closure Scenario and Scope**

The installation has no defined lifetime and the risk of closure is low. The commercial viability of the operations will be kept under review and, if market conditions dictate the need to close the installation, the Agency will be notified and the DMP will be implemented. Following a planned closure Eras Eco may, depending, on the future plans for the facility, apply to either surrender or alter the licence.

For the purpose of costing this DMP, it has been assumed, in accordance with the Agency's Guidance, that the plant will close unexpectedly and that the DMP will be implemented by third parties contracted by the Agency.

#### **1.5 Restoration and Aftercare Plan**

At the time of the preparation of this plan a Restoration and Aftercare Plan was not considered necessary as there is no evidence of any environmental liabilities that require remediation post closure.

#### **1.6 Limitations**

The assessment of costs associated with the implementation of the DMP is based on the information available at the time of the report preparation, including the Agency's Guidance, and may be subject to amendment based on future investigations and the annual review required under Condition 10.2.2 of the licence.

---

## 2. SITE EVALUATION

---

### 2.1 Operator Performance

#### 2.1.1 Facility Management

The Facility Manager has over 14 years' experience in Waste Management and holds a Certificate in FAS Waste Management Training Course. The Environmental, Health & Safety Manager has 7 years' experience in EHSQ and holds a BSc in environmental management, a Certificate in Safety & Health and a NEBOSH Safety Diploma. All operatives are provided with the appropriate and necessary training to complete their assigned tasks.

#### 2.1.2 Compliance History

In 2019 Eras Eco received notifications of 12 non-compliances with the licence conditions relating to *inter alia* odours and the maintenance of bunds.

#### 2.1.3 Enforcement History

On 1st of November 2019 Eras Eco Limited pleaded guilty to breaches of conditions of its licence by:

- Failing to comply with Condition 5.2 of its Industrial Emissions Licence, in that emissions of odours from the activities carried on at the site resulted in an impairment of, or an interference with amenities or the environment beyond the facility boundary within the period commencing on the 7th June 2018 and ending on the 4th July 2018.
- Failing to comply with Condition 8.6 of its Industrial Emissions Licence, in that they failed to ensure that waste was stored in designated areas, protected as may be appropriate against spillage and leachate run-off, on the 4th July 2018, and
- Failing to comply with Condition 3.24.1 of its Industrial Emissions Licence, in that they failed to ensure that all doors to the waste recovery and transfer buildings were kept closed where possible on the 3rd July 2018.

#### 2.1.4 Incidents History

In 2019 there were four incidents relating to exceedances of emission limit values.

#### 2.1.5 Complaints History

In 2019 seven odour complaints were received regarding odour, all of which were investigated and subsequently closed out.

## 2.2 Environmental Pathways & Sensitivities

### 2.2.1 Surrounding Land Use

A local road runs along its northern boundary, while south of the site is mudlands. To the east of the site is the Youghal Landfill and Civic Amenity Centre operated by Cork County Council. The adjoining lot to the west is occupied by the National Car Test (NCT). The nearest private dwelling is 250m from the site, at the junction of the site access road and the R634.

### 2.2.2 Hydrology

The site is located on reclaimed land to the west of the estuary of the Blackwater River. The Tourig River enters the Blackwater to the north of the site. A drainage ditch, which runs adjacent to the access road to the north-west of the site, receives run-off from the access road and from reclaimed land to the north-west. There are a number of other drains to the east and south-east of the site, all of which enter the estuary.

Rainwater run-off from roofs and non-waste storage paved areas is collected in the surface water drainage system that connects to two silt/oil interceptors (Class 1) and a storm water retention tank. The run-off is reused on-site when possible and the surplus water discharges to the estuary via a non-return valve.

### 2.2.3 Foul Water

Process wastewater is not generated and sanitary wastewater from the offices is treated in a proprietary treatment system (Puraflo ©) adjacent to the northern site boundary, before being discharged to the Irish Water foul sewer that outfalls to the municipal wastewater treatment plant in Youghal.

### 2.2.4 Geology & Hydrogeology

The site is underlain by up to 3m of made ground, which overlies up to 11.6m of glacial till, which in turn overlies up to 2m of sandy gravel. The made ground is predominately clay, with small portion of construction and demolition. The bedrock underlying the site consists mainly of the Waulsortian Limestones, which consists of massive, unbedded mounds of calcareous deposits in the form of mudstones, wackestones and packstones.

### 2.2.5 Designated Sites

The Blackwater River and estuary is designated a Special Protected Area (SPA), a proposed National Heritage Area (pNHA) and a Special Area of Conservation (SAC). The site itself is located outside the designated zone.

### 2.2.6 Emissions

There is one (1 No.) emission point to the surface water (SW-1). There is one (1 No.) emission to sewer (SE-1), but treated process wastewater no longer discharges to the sewer. There are seven (7 No.) authorised point emissions to air, which are the boiler stack, the biofilter, the odour control units in Buildings 1 and 2, the two stacks on the CHP engines and the back-up gas flare. Sludge drying has ceased and the drying plant and associated wastewater treatment unit have been decommissioned, therefore there are no emissions from the boiler stack, biofilter and odour control unit in Building 2.

Site operations are a source of noise and the licence specifies noise emission levels for the nearest noise sensitive locations. Operations are also a potential source of dust emissions and the licence specifies dust deposition limits.

## 2.3 Site Processes & Activities

### Sludge Drying

Sludge drying was carried out in Building 2 using a rotary drier heated by steam produced from an on-site boiler fuelled by biomass (wood chip). Condensate from the drier was treated in the on-site wastewater treatment plant (WWTP), with the treated effluent discharged to the estuary.

The WWTP was designed to treat condensate from the sludge drier, landfill leachate and wash water from the wheel wash. It comprises a balance tank with an air diffuser, a dissolved air floatation tank, carbon and sand filters, lamella settlement unit, hypochlorite treatment and a sludge storage tank.

Sludge drying stopped in 2018 and it is not intended to restart. The sludge drying plant (reception and mixing bins and rotary drier) and associated WWTP have been decommissioned. It is understood that the sludge reception and mixing bins and the rotary drier will be removed from the site, but that the biomass fired boiler and decommissioned WWTP will be retained.

Eras Eco has informed the Agency of its intention to alter the licensed area to exclude Building 2 and the associated open yard areas from the licence.

### Anaerobic Digestion (AD)

The AD plant comprises four liquid storage tanks, a feed hopper and conveyor, two pasteuriser tanks and a quarantine tank located in Building 1 and two digester tanks and a digestate storage tank located in the south of the site. The digesters are enclosed and heated to 37°C and are continuously agitated and fed with sludge, organic sludge from the food and beverage industry and household and commercial food waste.

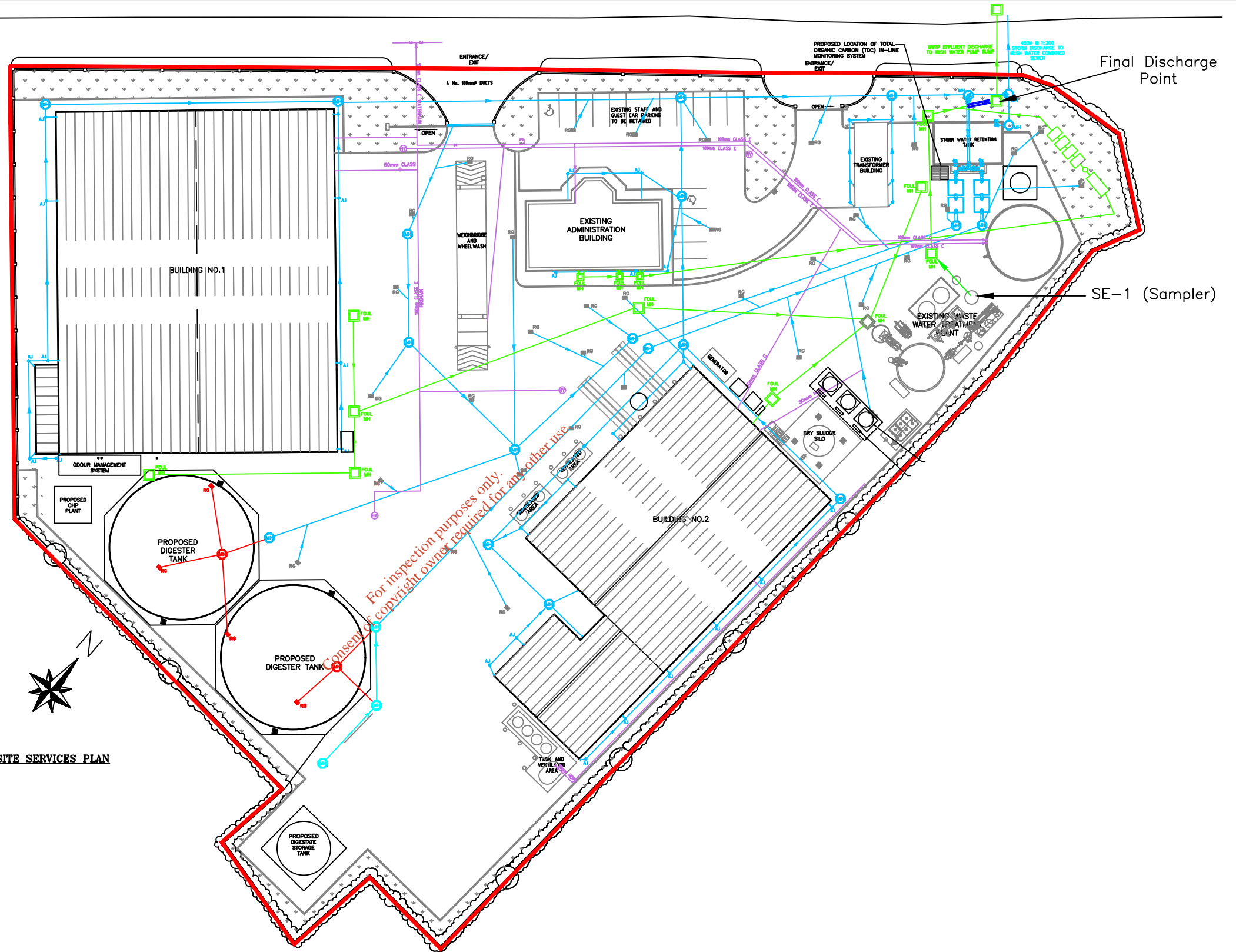
This process produces a biogas and a digestate. The biogas contains approximately 65% methane, which is currently treated (scrubbed) and used as a fuel in two on-site combined heat and power units. It is envisaged that in the future the gas will be exported to the national grid. Where the feed stock includes animal by-products, the digestate is pasteurised to facilitate its use as a fertiliser. The temperature in the pasteurisers is raised to the required level (71C<sup>0</sup>) using water heated by the CHP engines.

The digestate is then transported from the facility in road tankers and applied to farm land as an alternative to artificial fertilisers.

## 2.4 Plant Inventory

The site layout is shown on Drawing No. 15-193-02 Rev B and details of the fixed infrastructure are presented in Table 2.1. In addition site operations require the use of mobile plant-forklifts, loading shovel and a hoist platform.





PROPOSED SITE SERVICES PLAN  
SCALE 1:500

For inspection purposes only.  
Consent of copyright owner required for any other use.



O' Callaghan Moran & Associates.  
Unit 15 Melbourne Business Park  
Model Farm Road, Cork, Ireland.  
Tel. (021) 4345366  
email: info@ocallaghanmoran.com

CLIENT  
Eras Eco

DRAWING No.  
15-193-02

TITLE  
Site Services

REV.  
B

This drawing is the property of O'Callaghan Moran & Associates and shall not be used, reproduced or disclosed to anyone without the prior written permission of O'Callaghan Moran & Associates and shall be returned upon request.

**Table 2.1 – Site Infrastructure**

Ref	Infrastructure	Details
1	Building 1 – Processing Building (Anaerobic Digestion Feed Area)	Area 2,140m <sup>2</sup> . Steel portal frame with 300mm reinforced concrete floor slabs. 1.8 high mass concrete wall on top of which are wall cladding on multibeam purlins bolted to the cantilevered steel frame. The roof cladding has skylights and are bolted to seating angles. Roof mounted smoke detection system. Four liquid storage tank (100 tonnes each) a feed hopper and conveyor, two pasteuriser tanks (each 25m <sup>3</sup> ) and a quarantine tank (80 tonnes). Odour abatement system comprising an air extraction fan, wet scrubber and activated carbon filter.
2	Building 2 – Processing Building (Former Sludge Drying)	Area 1,243m <sup>2</sup> . Steel portal frame with 300mm reinforced concrete floor slabs. External wall and roof cladding and internal floor to ceiling blockwork wall separating the dryer, the biomass boiler and the waste reception and mixing bin areas. Sludge drying has stopped and the plant and equipment are decommissioned.
3	Site Office	Area. 460m <sup>2</sup> – No Internal drains. Used for administrative offices, canteen and changing rooms, washing machines. Two storey structure with a structural masonry (100mm) outerleaf with 100mm cavity and 215mm concrete block inner leaf and suspended ceilings. Smoke detection system with control panel in reception.
4	Transformer Building Grid Connection	Area. 46m <sup>2</sup> .
5	Anaerobic Digesters 2 No	Each has 2,500 tonnes storage capacity and both fitted with pressure monitors, pressure release valves and odour abatement systems.
6	Digestate Storage Tank	1,000 tonnes storage capacity.
7	Combined Heat & Power Units and Transformers	2 No. Combined generating capacity 1.8MW 2 No. Transformers.
8	Gas Flare	1 No. Back-up to control gas pressure in digesters when CHP units shut down for maintenance.
9	Dried Sludge Silo	Not in use and decommissioned.
10	Wastewater Treatment Plant	Not in use and decommissioned.
11	Above Ground Diesel Tanks	1 No 2,600 litre 1 500 litre
12	Water Storage Tanks	Firewater Storage Tank (475m <sup>3</sup> ), Storm Water Retention Tank (120m <sup>3</sup> ).
13	Electrical Substation	Controlled by utility company and not accessible by Eras Eco.

## 2.5 Inventory of Raw Materials and Wastes

### 2.5.1 Raw Materials

Flammable materials handled on site are diesel oil, virgin and waste oils, lubricant and hydraulic oils. There are two above ground double skinned plastic diesel storage tanks, one 2,600 litre tank located at the south-eastern edge Building 1 (Photograph 1 in Appendix 1) and the second at the western side of Building 2 (Photograph 2). Only the tank outside Building 1 is in use.

Engine oil and hydraulic oil are stored in 1,000 litre Intermediate Bulk Containers (IBC) on bunds inside Building 1 (Photograph 3). Waste oils generated during plant maintenance are collected in drums and stored on spill pallets inside Building 1. Gas cylinders used in equipment repair are stored upright and in a secured location inside Building 1 (Photograph 4).

The wet scrubber on the odour control system uses sulphuric acid, sodium hydroxide, ferric solution and hypochlorite and these are stored in IBC on bunds adjacent to the scrubber (Photograph 5). The types and volumes of flammable and hazardous materials on site at any one time is in Table 2.2.

**Table 2.2 – Volume of Flammable & Hazardous Materials**

Products	Quantity Stored litres
Diesel Oil	3,500
Engine/Hydraulic Oil	2,000
Sulphuric Acid	1,000
Sodium Hydroxide	1,000
Hypochlorite	2,000
Ferric Solution	4,000

The majority of the wastes accepted are either solid, semi-solid or liquid organic wastes that are not combustible. Combustible waste includes off specification palm oil and food ingredients e.g. milk powders. The palm oils are delivered in IBCs and food ingredients are typically delivered in 25kg bags on pallets.

The wastes are stored in designated areas inside Building 1, as shown on the current Waste Storage Plan in Appendix 2, which includes the List of Waste (LoW) codes. The bays are delineated by large portable concrete blocks (Photograph 6). The maximum amount of waste on-site at any one time is 6,820 tonnes, comprising approximately 6,530 tonnes of liquid and semi-solid organic wastes and 290 tonnes of other materials and waste as shown in Table 2.3.

**Table 2.3 Quantity of Wastes On-Site**

Waste Types-	Tonnes	Location
Organic Material (Input)	6,400	Digesters, Digestate Holding Tank, Liquid Waste Storage Tanks, Pasteurisers and Quarantine Tank.
	130	Solid Feed Hopper
Waste Oil	4	Building 1
Butter Oil/Palm Oil/ Sunflower Oil	20	Building 1
Packaging Waste (plastic, paper)	16	Building 1
Milk Powder/Cheese	250	Building 1
Total	6,820	

The quantities given in the tables are based on the maximum amounts that can be stored on site at any one time, but in the event of the planned closure, the actual quantities should be considerably smaller, as the shutdown would be preceded by a reduction in the on-site inventory.

---

### 3. CLOSURE TASKS & PROGRAMMES

---

#### 3.1 Closure Tasks

##### 3.1.1 Materials Management

A planned shutdown of operations would be carried out after the last batches of waste received at the site had been processed and consigned. It would be preceded by a scaling down of activities, thereby reducing the quantities of materials, particularly fuel and wastes, to be dealt with when implementing the DMP.

Diesel, engine and hydraulic oil will be used to fuel plant and equipment deployed in the decommissioning works. When these are completed, it should be possible to return any remaining diesel and the odour control unit chemicals to the suppliers either for resale, or reuse. The remaining materials may have to be disposed of as waste, some of which may be deemed hazardous due to their composition.

A vacuum tanker will empty the oil interceptors and the contents will be sent for disposal at a suitably licensed facility.

##### 3.1.2 Buildings

It is not proposed to demolish any of the buildings, but they will be cleaned out and left in situ for future use. Given the nature of the waste handled at the facility, specialist decontamination of the buildings will not be required, and the cleaning will primarily involve wash down and use of road sweeper to clean the floors.

##### 3.1.3 Plant & Equipment

In the event of a planned closure, the plant and equipment will be either be sent other biological treatment plants, sold for use, or scrapped at approved waste recycling/recovery facility. At the time of the preparation of this DMP, it is not possible to accurately quantify every item of plant that would be suitable for resale, as this depends on their future condition. Those items of mobile plant that cannot be sold will be scrapped. The fixed plant will remain in situ.

All the metal items have a scrap value, and therefore the removal of the plant and equipment should be cost neutral.

Given the nature of the wastes handled at the facility, none of the plant items will require specialist decontamination or cleaning before being scrapped.

##### 3.1.4 Tanks

The digesters, digestate storage tank, liquid feed stock tanks, pasteurisers and quarantine tanks will be cleaned out by Eras Eco personnel and the wash water sent off site for treatment.

### 3.1.5 *Interceptors & Drains*

As referred to above, the interceptors will be cleaned and the contents sent off site for treatment. All surface water and foul water drainage pipes will be flushed using water.

### 3.1.6 *Services*

The telecom, electricity and water supply services will be disconnected.

### 3.1.7 *Environmental Monitoring*

Monitoring will continue until all the decommissioning works have been completed.

## 3.2 **Closure Programme**

In the event that the entire facility is closed, all the operational areas will be decommissioned. The decommissioning will take 6 weeks (Table 3.1) and will be carried out in a number of tasks, some of which will happen concurrently.

For inspection purposes only.  
Consent of copyright owner required for any other use.

**Table 3.1 Decommissioning Plan Schedule**

	START	DURATION	Week						
			1	2	3	4	5	6	7
<b>Tasks</b>									
Task 1 Operate the AD plant									
Task 2 Removal of feedstock, empty and clean the liquid waste storage tanks.	1	2							
Task 3 Empty and clean digesters, digestate tank and pasteuriser tanks.	3	2							
Task 4 Clean-out Building 2 including AD feed hopper. Remove office equipment	3	3							
Task 5 Clean drains and storm water retention tank	5	1							
Task 6 Empty and clean interceptors	5	1							
Task 7 Decommission Puraflow									
Task 8 Clean yards	6	1							
Task 9 Disconnecting services	6	1							
Task 10 Closure audit	7	1							

For inspection purposes only.  
Consent of copyright owner required for any other use.

---

#### 4. CRITERIA FOR SUCCESSFUL CLOSURE

---

Successful closure will only be complete when:

- All consumables, wastes, and residual materials have either been treated onsite, or consigned to appropriately authorised recovery/disposal facilities;
- Records of all wastes, materials and plant removed from the site have been prepared;
- All buildings have been cleaned out and services disconnected;
- A site investigation, if required, confirms that soil and groundwater conditions present no significant environmental risk;
- The environmental monitoring confirms no impact associated with the closure and decommissioning works;
- A Closure Audit has been completed and approved by the Agency.

For inspection purposes only.  
Consent of copyright owner required for any other use.

---

## 5. CLOSURE PLAN VALIDATION

---

### 5.1 Closure Audit & Validation Report

Following the completion of the site clean out, Eras Eco will appoint an experienced independent environmental auditor, who will be approved by the Agency, to carry out a Closure Audit, and produce a Validation Report that demonstrates the successful implementation of the Plan. The Closure Audit will address:-

1. Disposal of raw materials;
2. Disposal of wastes;
3. Decommissioning of plant and equipment;
4. Disposal of obsolete equipment;
5. Results of monitoring and testing during the decommissioning period;
6. Soil & Groundwater Assessment, and
7. The need for on-going monitoring, remedial actions or aftercare management.

The Validation Report will describe all of the activities carried out during the Closure Audit, and will contain records of the destinations of all wastes and materials consigned from the site during decommissioning. The Report will be submitted to the Agency within three months of execution of the Plan.

Consent of EPA Inspection purposes only.  
Consent of EPA; right owner required for any other use.



---

## 6. CLOSURE PLAN COSTING

---

The costs of a planned closure will be met in full by Eras Eco. The costs of implementing the DMP in an unplanned closure scenario where Eras Eco is not in a position to meet the cost are presented in Table 6.1. The costs are based on the following assumptions:

- The closure will be unforeseen and unexpected with no advance warning that would allow an orderly wind down of activities.
- 400m<sup>3</sup> of liquid waste and 420 tonnes of solid waste feed stock will be in Building 1.
- All of the digesters, digestate storage tanks and pasteurisers are full (6000m<sup>3</sup>).
- A temporary site manager and operatives will be appointed to manage the plant to ensure that the sludge drying and anaerobic digestion processes are successfully completed and to implement the decommissioning and clean out.
- The cleaning of the digesters, digestate tank, pasteuriser tanks, quarantine tanks and liquid feed stock storage tanks will be carried out by specialist contractors. The washwater will be sent off site for treatment.
- Only the wastes already in AD digesters will continue to be treated. The untreated waste in Building 1 will be sent for treatment in other biological treatment plants e.g. Ormonde Organics Portlaw. These have a commercial value, but for the purpose of this DMP a transport cost has been provided. In the event that the closure occurs at a time land spreading cannot be carried out, the digestate will be transported to the Ormonde Organics AD plant in Portlaw, where it will be stored until land spreading can begin.
- The diesel storage tank (2,600) litres is full and there are 4 full IBCs of sulphuric acid, sodium hydroxide, aluminium sulphate and hypochlorite on-site. The water treatment chemicals will be used in the odour control unit until it is decommissioned. The diesel will be used in the decommissioning to fuel mobile plant. The activated carbon and odour abatement treatment chemicals have an asset value, but it has been assumed that the removal will be cost neutral.
- The digestate and fibre will be sent to the normal outlets, which based on the nutrient value of the materials and proximity of the land banks will be cost neutral.
- Given the nature of the waste accepted and the AD process specialist decontamination of the digesters, digestate tank, pasteuriser tanks, quarantine tanks and liquid feed stock storage tanks will not be required. Aqueous tank wash out will be carried out by specialist contractors and the washwater will be sent off site for treatment.
- The entire facility will be decommissioned, all operational buildings will be cleaned and all wastes products and consumables will be removed from the site. The CHP units, flare, mobile plant will be removed from the site. Depending on the condition these would have a significant sale value, but it has been assumed their removal will be cost neutral
- The decommissioning of the puraflo system will be carried out by third parties.
- It is not proposed to demolish any of the buildings or tanks.

**Table 6.1: Costs**

Task	Description	Quantity	Unit	Rate	Cost	Source of Unit Rates
Facility Management	Site Manager (2.5 days/week for 6 weeks)	15	Day	€500	€7,500	Eras Eco
	2 No Operatives 5 days/week for 6 weeks	30	Day	€600	€18,000	Eras Eco
	Utility Bills	Item		1000	€1,000	Eras Eco
	Insurance	Item			€5,000	OCM
Materials/Waste Disposal/Recovery	Removal, transport off-site and treatment of solid feedstock Building 1.[1]*	400	Tonnes	10	€4,000	Eras Eco
	Removal, transport off-site and treatment of liquid feedstock in Building 1[2]**	420	Tonnes	10	€4,200	Eras Eco
	Transport and off-site land spread of digestate[3]***	6,000	m3	6.5	€39,000	Eras Eco
	Removal and off-site disposal of diesel and waste oils [4]	1000	litres	€0.70	€700	EPA Guidance
Building Plant & Equipment Clean Out	Clean out of Building 1 (Included in Management Cost)		Day Rate		€0	
	Cleaning plant and equipment (Included in Management Cost)		Day Rate		€0	
	Removal of plant and equipment[4]					
	Cleaning digesters, digestate tank ,pasteurisers, liquid waste storage tanks (High powered jetting +confined space equipment +trained operatives)	5	Day Rate	€1,500	€7,500	Eras Eco
	Removal and off-site treatment of wash water from tanks	150	m3	€50	€7,500	Eras Eco
	Cleaning of drains, interceptors and storm water retention tank	1	Day Rate	€1,500	€1,500	Eras Eco
Decommission Odour Abatement System	Removal of carbon from unit (included in Management Cost)				€0	
	Transport and off-site disposal of carbon	5	Tonnes	€400	€2,000	Eras Eco
Yard Cleaning	Cleaning open yard (Roadsweeper)	1	Daily Hire	€400	€400	Eras Eco
Environmental Monitoring	Air emission and surface water quality monitoring	1	Quarter	€5,000	€5,000	OCM
Validation Audit	Validation Report (Consultant)	1		€2,500	€2,500	OCM
Security Costs	Netwatch	7	Week	€100	€700	Eras Eco
Services Disconnection	Disconnect electricity and telecoms	1	Day	€400	€400	Eras Eco
Total Liability (€)					€106,900	
Contingency (20%)					€21,380	
Total					€128,280	

[1] Material has a commercial value, but allowance made for transport from the site

[2] Material has a commercial value but allowance has been made for transport.

[3] Digestate has a nutrient value, but allowance has been made for transport

[4] Diesel will be used by mobile plant during the decommissioning, with provision made for residual amounts sent off-site when decommissioning completed.

[5] Cost neutral

\* LoW20203, 20501, 20108, 200125, 060503

\*\*LoW 020204, 020702, 20705,

\*\*\* LoW 190606

Consent of copyright owner required for any other use.  
For inspection purposes only.

Tank	Capacity (m3)	Actual
Digesters	5000	4500
Digestate Holding Tank	1000	900
Liquid Feed Tanks	400	360
Pasteurisers	50	50
Quarantine	80	25
Total	6530	5835

For inspection purposes only.  
Consent of copyright owner required for any other use.

APPENDIX 1

*For inspection purposes only.  
Consent of copyright owner required for any other use.*



Photograph 1: Diesel Storage Tank Building 1



Photograph 2: Diesel Storage Tank Building 2



Photograph 3 : Engine and Hydraulic Oil



Photograph 4 : Gas Cylinder Storage



Photograph 5: Scrubber Treatment Chemicals Storage



Photograph 6: IBC Storage Building 1

APPENDIX 2

*For inspection purposes only.  
Consent of copyright owner required for any other use.*



# Eras Eco W0211-02 Material Intake Building Waste Storage Plan

