

Attachment K. Remediation, Decommissioning, Restoration and Aftercare

A fully costed Closure and Decommissioning Plan prepared by SLR Consulting in April 2016 is attached.

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global environmental solutions

**Materials Recovery Facility
Forge Hill
Cork**

Closure and Decommissioning Plan

**In Support of
A Waste Licence Application
by Forge Hill Recycling Ltd.**

Report

3rd June 2016
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1.0 INTRODUCTION AND BACKGROUND

1.1 Our Brief

SLR Consulting Ireland (SLR) has prepared this independent Closure and Decommissioning Plan (CDP) in relation to the proposed operation of a Materials Recovery Facility (MRF) at Forge Hill, Cork. This report will accompany a Waste Licence Application by the proposed operator, Forge Hill Recycling Ltd. The site was previously operated by Ipodec/Onyx/Veolia/Greenstar as a MRF under Waste Licence No. W0173-01.

The site was closed in 2011 and the previous licence has now expired. It is notable that the previous site closure was orderly and carried out in a manner that was agreed with the Agency, leaving a valuable asset with no significant liabilities.

Photo 1 – Forge Hill Materials Recovery Facility



1.2 About SLR Consulting

SLR Consulting is a major international multi-disciplinary environmental consultant, employing 1,000 staff in Ireland, the UK, North America, Australia and South Africa. In Ireland, the company trades as SLR Consulting Ireland, and employs around 30 environmental specialists, engineers and support staff at offices in Dublin and Hillsborough.

Recent Clients of SLR include the European Union, national governments, government departments, international lending agencies, UK and Irish regional and local authorities / agencies, waste treatment technology providers and private sector waste management companies.

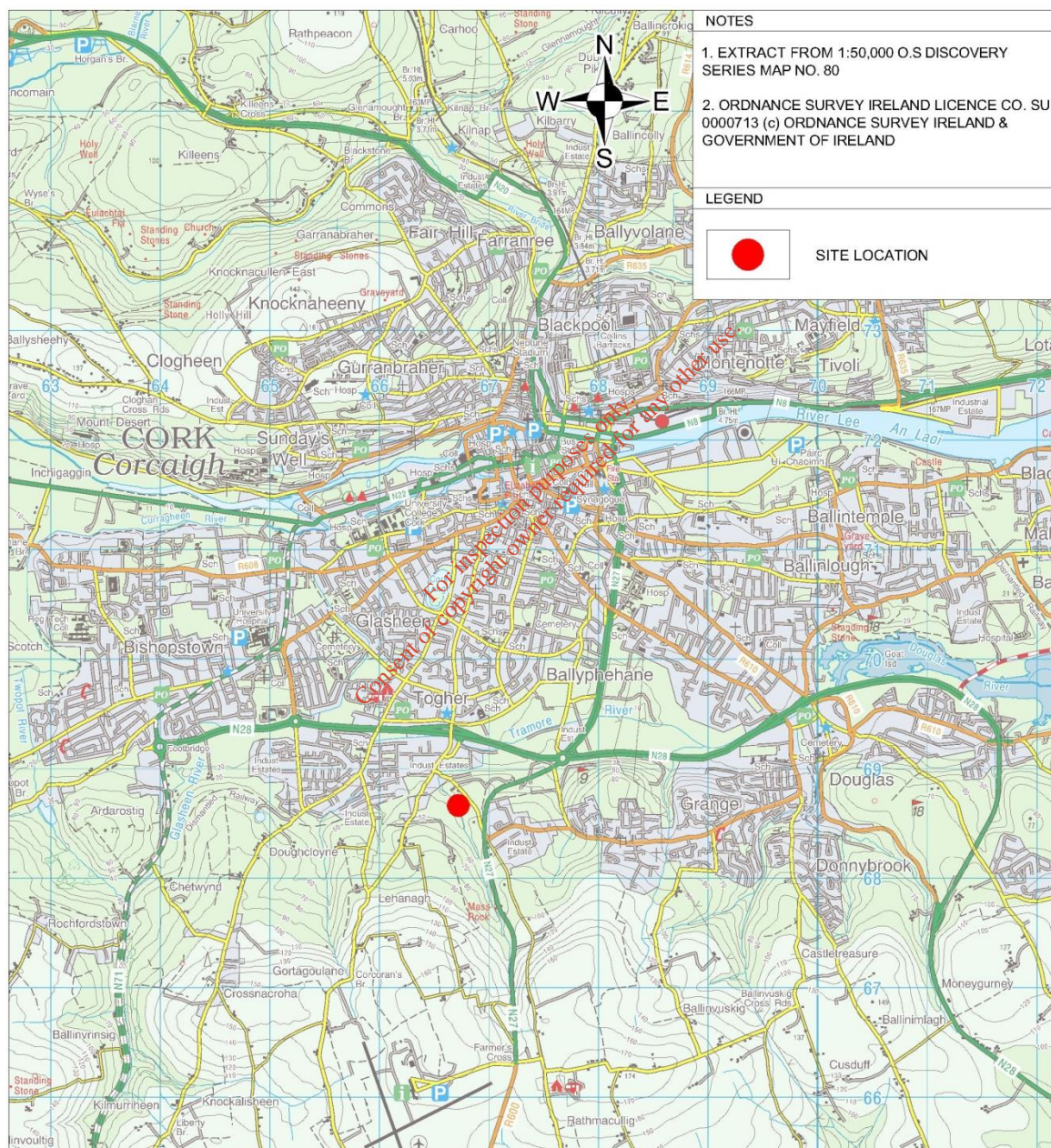
SLR employs the largest team of waste management experts in the UK and Europe. The equivalent of approximately 150 staff is employed on a full-time basis on waste management projects in Ireland and the UK. Specialist staff is employed across 30 separate technical disciplines.

1.3 Site Location

The existing MRF at Forge Hill, Cork is located on the southern fringe of Cork City, within the townland of Ballycurreen. The facility covers an area of approximately 1.03 hectares (2.48 acres) and is accessed from the Forge Hill Road via a junction on the N27 National Primary Road (Kinsale Road) leading from the N40 Southern Ring Road to Cork Airport. Waste operations at the facility ceased in September 2011.

The location of the facility is shown in Figure 1 below.

Figure 1 – Site Location



The MRF facility is located within the Forge Hill Business Park and is bounded to the north and south by other industrial and commercial premises. It is bounded to the west by a public road (Forge Hill) with other industrial premises on the opposite side of the road. To the east of the site is an area of undeveloped Greenfield land and beyond that is the N27 Kinsale Road. Figure 2 overleaf shows an aerial view of the site and the surrounding area.

Figure 2 – Aerial View of Site and Surrounding Area (from Microsoft Bing Maps)



1.4 Site Description

The Forge Hill MRF commenced operation as a waste facility in the late 1970s. In September 2003, a waste licence (ref. no. W0173-01) was obtained for the facility by its operator at the time, IPODEC Ireland Limited.

The facility was licensed to accept and process up to 82,000 tonnes of mixed non-hazardous, municipal, commercial, industrial and commercial / demolition waste annually. Up to the time of its closure, this comprised:

- 25,000 tonnes of Municipal (Household) Waste
- 46,600 tonnes of Commercial Waste
- 6,400 tonnes of Industrial Waste
- 4,000 tonnes of Construction and Demolition (C&D) Waste.

No hazardous waste (in solid or liquid form) was accepted or processed at the facility.

IPODEC became Onyx and then Veolia Environmental Services through international mergers and/or acquisitions. Greenstar then purchased Veolia's waste management business in the Republic of Ireland and operated the site for a short period before the licence was transferred in 2013 to Starrus Eco Holdings Ltd, which is a company controlled by Cerberus Capital Management. During the previous operation of the MRF, the site was leased, rather than owned by the operator. The site has now been purchased by Mr. Sean Murphy, the Managing Director of Forge Hill Recycling Ltd (FHRL) and also the Managing Director of Killarney Waste Disposal Ltd.

FHRL has recently acquired a waste permit¹ to operate a MRF at the site where the company intends to process up to 50,000 t/a of mixed dry recyclables. FHRL is now applying to the EPA for a Waste Licence to increase the throughput to 82,000 t/a, which is consistent with the planning permission for the site.

There are also plans to add a new building at the front of the existing buildings to accommodate extra storage and to allow flexibility for further refinement of the products, should the need arise in the future. Planning permission was granted by Cork County Council for this extension on 24th March 2016. At the time of writing, we await a final decision, i.e. with or without appeal.

When operational, all waste acceptance, handling and processing will be undertaken indoors, within the material recovery buildings.

The layout and details of the existing facility and proposed extension are shown on Drawings prepared by Brian O'Kennedy & Associates Ltd and included in the Waste Licence Application.

Figure 3 below shows an aerial view of the site taken from Microsoft's Bing Maps website.

There are a number of buildings on site. The main waste transfer and handling buildings are adjoining steel portal frame structures with a shared concrete wall where waste activities are carried out. A small building which was used to store power cleaning equipment is located in the northeast corner of the site. On the western boundary of the site close to the exit is an ESB substation.

There is a weighbridge located to the south of Unit 1 (the westernmost waste recovery building) and another situated in the north western corner of the site. In the north eastern corner of the site is an area which was used to wash out returned or damaged waste receptacles and to the north of Unit 1 is an engineered depression which was filled with water and used as a truck wheel wash. With the exception of a gravelled area around the offices, the open areas are paved with either tarmacadam or concrete.

¹ WFP-CK-15-0148-01 issued in December 2015 issued by Cork County Council.

Figure 3 – Aerial View of Site



1.5 Closure Scenarios

This Closure and Decommissioning Plan is consistent with EPA guidance provided in the 2014 published document “*Guidance on Assessing and Costing Environmental Liabilities*”. After the previous closure of the site, a residuals management plan was prepared by O’Callaghan Moran in consultation with the EPA. It was agreed at that time that there are no known environmental liabilities at the site and no reason to suspect underground contamination beneath the concrete and tarmacadam surfaces at the site. Proposed operations are not expected to leave residual environmental liabilities at the site, so it is clear that under normal working conditions restoration and/or aftercare will not be required once clean closure is established at the site. If this situation changes in the future a restoration and aftercare plan can be developed to address the circumstances that prevail at that time.

Therefore, this plan addresses clean closure at the site with no requirement for restoration and/or aftercare.

2.0 SITE EVALUATION

2.1 Operator Performance

FHRL is a new company, but it is controlled and managed by Mr. Sean Murphy, the owner of Killarney Waste Disposal Ltd (KWD). KWD has operated a licensed waste facility (W0217-01) at Aughacurreen near Killarney for many years. That site was licensed in 2006 and the operator has a good compliance record.

The business has grown steadily in the last 10 years and KWD plans to alleviate capacity issues at the Killarney site, by relocating mixed dry recyclable processing to the Forge Hill site. Much of the dry recyclable material processed in Killarney is sourced in Cork and exported from Cork to international processing plants, so processing that material at Forge Hill will significantly reduce transport of these materials, with both cost and environmental benefits.

FHRL has developed an EMS for the facility and this will be submitted with the Waste Licence Application.

The Forge Hill site has been operated for many years with a good compliance record. It is purpose built to control emissions, particularly emissions to the water environment, with concrete surfaces and good management of both surface water and foul water at the site. The materials that will be handled at the site going forward are considered to pose a low risk of environmental pollution.

A review of the 'Environmental Incidents and Complaints' sections of the 2008 to 2011 AERs indicated that no complaints were received by the Agency or the operator in relation to the operation of the Forge Hill facility during this four year period.

2.2 Environmental Pathways and Sensitivities

The nearest residential properties to the site are located approximately 80 metres to the north-west of the waste facility (property fronting onto Forge Hill) and ca. 115m to the east (just off the N27 Kinsale Road). The newly constructed Manor Village residential development is also located approximately 150m to the west of the facility.

The topography of the area immediately surrounding the facility is gently sloping. Ground levels slope down to a minor river valley to the west of the site and upward to low rising hills to the south.

Geological mapping published by the Geological Survey of Ireland (GSI) indicates that the bedrock underlying the site comprises sandstones, siltstones and mudstones of the Gyleen Formation which is classified as a moderately productive aquifer which is productive only in local zones (L1). GSI mapping also indicates that the aquifer vulnerability rating for the site is extremely high, primarily on account of thin soil cover. The site is indicated by Teagasc / EPA soil mapping to be underlain by Made Ground and/or glacial till derived from sandstone.

Further details on geology/hydrogeology and an assessment of the likely impacts of the facility in this regard are provided in Section I.4 of the waste licence application.

The site is located within the catchment of the Tramore River which flows into Cork Harbour. While the quality and status of the Tramore River is not monitored, the transitional waters into which it flows in the harbour are currently indicated to be of good status. In the absence of any other available information, it is assumed that the Tramore River is of moderate to good quality status, equivalent to water quality Class B.

The Forge Hill MRF is located over 3km west of the Douglas River Estuary proposed Natural Heritage Area (pNHA) and Cork Harbour Special Protection Area (SPA) and approximately 1.75km east of Cork Lough pNHA. There is no fruit, vegetable or dairy farming within 150 m of the working areas of the facility.

Further details on the local surface water environment and an assessment of the likely impacts of the facility in this regard are provided in Section I.2 of the waste licence application.

The pathway to groundwater is restricted by the provision of concrete surfaces on site and the handling of waste materials only inside the building which has a concrete floor.

The pathway to surface water is controlled by the purpose built drainage system that:

- directs potentially contaminated yard water to the foul sewer line and ultimately the local authority sewer, via a hydrocarbon interceptor
- directs clean roof water to the balancing tank from where it is pumped to the discharge point and on to the local stream
- directs water from clean yard areas to a large interceptor / silt trap prior to the balancing tank from where it is pumped to the discharge point and on to the local stream
- shut off valves are installed in the foul and surface water lines, and
- prevents fire-water or other discharges from inside the buildings, by way of ramps on the doors.

The pathways for dust, odour or noise emissions are restricted by operating only in the buildings and by the separation distance described above.

An assessment of the potential impacts of atmospheric emissions from the facility is provided in Section I.1 of the waste licence application.

An assessment of the potential impacts of noise emissions from the facility is provided in Section I.6 of the waste licence application.

The proposed monitoring points for the site are included on Drawings WL17 and WL18 that accompany Section F of the waste licence application. A summary with grid coordinates is provided in Section F.2 of the waste licence application form.

There are only 2 planned discharges from the site, SW1 (surface water) and FW1 (trade effluent / potentially contaminated yard run-off). These locations are shown on Drawing WL17 and their details are provided in Tables E.2 and E.3 in the waste licence application form.

2.3 Site Processes and Activities

The facility will accept mixed dry recyclables and will segregate and bale these materials prior to onward transport to processing facilities such as paper mills, steel mills, aluminium smelters and plastics factories. The segregation will be highly automated using hi-tech plant to separate by size, shape, optical refraction and other physical qualities. Manual picking will mostly be limited to quality control.

All wastes will be unloaded inside the buildings. All baled recyclables will be loaded to containers or vehicles either inside the buildings or at openings where there is adequate protection against the elements.

Residues and other non-conforming non-hazardous wastes will be loaded into a compactor inside the buildings and will be dispatched from there to appropriate treatment on a daily basis. Hazardous or other materials that are unsuitable to be treated as residues will be quarantined in a designated area and dispatched off site for appropriate treatment within 48 hours.

There will be no processing or handling of wastes in the outdoor areas of the site.

A wash area is provided in the north eastern corner of the site. This will be used infrequently as there are no plans for bin, skip or truck storage or maintenance at the site. The wash area drains to foul sewer.

2.4 Inventory of Buildings, Plant and Equipment

The site and building layouts are shown on Drawings prepared by Brian O’Kennedy & Associates Ltd and included in the Waste Licence Application.

In addition, Attachment D.2.2 of the waste licence application contains a more detailed design drawing of the plant inside the buildings and Attachment D.1(m) contains further details on the dimensions and layout of the site buildings, with drawings that included floor plans and elevations.

The following plant and equipment will be used at the facility.

Plant & Equipment	Function	Throughput Capability
Liebherr Grab	Transfer MDR from stockpile into processing plant bunker	40 tonne per hour
Metering Bunker	Regulate feed rate of MDR into the sorting plant	40 tonne per hour
OCC Screen	To remove large flat fractions from the MDR mix	25 tonne per hour separation
OCC Optical Sort	To remove OCC from the large flat fraction separated	10 tonne per hour (5 tonne per hour per meter belt width)
2 deck Ballistic Separator	Separate incoming MDR into 2 dimensional, 3 dimensional and fines fractions	40 tonne per hour. Efficiency reduced at throughputs above separation capacity.
2 Dimension Oversize Optical Separator – Plastic Separation	Separate plastic film from mainly paper 2-D oversize fraction	10 tonne per hour (5 tonne per hour per meter belt width)
2 Dimension Midsize Optical Separator	Separate paper from mainly 2-D midsize fraction	10 tonne per hour (5 tonne per hour per meter belt width)
3 Dimension Line Optical Separator - Bottles	To separate PET and HDPE bottles from the 3-D stream	10 tonne per hour (5 tonne per hour per meter belt width)
3-Dimension Line Optical Separator – Paper Recovery	To recover paper from the 3-D stream	10 tonne per hour (5 tonne per hour per meter belt width)

Fine Fraction Line Optical Separator – Paper Recovery	To recover paper from the 3-D stream	10 tonne per hour (5 tonne per hour per meter belt width)
Plastic Film Optical Separator	To remove clear plastic film from the plastics stream removed from the 2-D stream	10 tonne per hour (5 tonne per hour per meter belt width)
Eddy Current Separator	Positive separation of non-ferrous metal material from 3-D stream	Not applicable. Efficiency reduced at target material throughputs above separation capacity
Over-band Magnet	Positive separation of ferrous metals from 3-D stream	Not applicable. Magnet does not restrict or limit line throughput.
2 no. Twin Ram Automatic Balers	Baling of segregated fractions	2 by 30 tonne per hour
2 no. Forklift Units	Removal of baled product from baling stations	Not applicable
1 Teleporter	Moving of material to baler	Not applicable

2.5 Inventory of Raw Materials, Products and Wastes

The annual throughput of waste will be limited to 82,000 t/a and the plant is designed to run at that rate with adequate spare/ standby capacity. That equates to roughly 300 tonnes of waste per day.

All incoming waste will be mixed dry recyclables. The majority will be from household kerbside collections, but some will be of commercial origin.

The main products will be as follows:

- Baled Paper
- Baled Cardboard
- Baled Aluminium Cans
- Baled Steel Cans
- Baled Plastic (some different grades depending on market conditions)

There is potential for other dry recyclables to be accepted for processing or temporary storage, but in normal circumstances, inputs will comprise mixed dry recyclables and outputs will comprise baled single stream recyclables.

There will be no fuel stored on site and no tanks provided for that purpose. Small quantities of oils such as lubricating oils and engine oils may be stored in drums on banded pallets in a safe location inside the buildings.

2.6 Maximum Storage Capacity for Raw Materials, Products and Wastes

In the existing buildings, the maximum storage capacities for raw materials, products and wastes are detailed in Table 2-1 below. Maximum storage quantities are based on fire-water retention containment limits.

Table 2-1 – Maximum Planned Storage in Existing Buildings

Location of waste	Tonnes	Cubic metres ²	Material	Notes, rationale, clarifications
Quarantine areas	1	4	Residual MSW	Dry recyclables only, so quarantine area is likely to have non-recyclable municipal waste
Inspection areas	5	21	Mixed Dry Recyclables	Pre-approved suppliers
Input Storage Area	100	417	Mixed Dry Recyclables	Pre-approved suppliers
Waste on Process Line	10	42	Mixed Dry Recyclables	Inspected in advance
Product 1 Storage area	200	385	Baled Paper & Cardboard	
Product 2 Storage area	150	375	Baled Plastic	
Product 3 Storage area	100	167	Baled Metal Cans	
Non-Recyclable Residues	20	80	Residual MSW	One compactor of non-recyclable municipal waste. Replaced several times per day.
Total	586	1,491		

When the extension is fully constructed, the maximum storage capacities for raw materials, products and wastes are detailed in Table 2-2 below.

² Density assumptions are explained in Attachment D.1(o) of the waste licence application.

Table 2-2 – Maximum Planned Storage including Extension

Location of waste	Tonnes	Cubic metres	Material	Notes, rationale, clarifications
Quarantine areas	1	4	Residual MSW	Dry recyclables only, so quarantine area is likely to have non-recyclable municipal waste
Inspection areas	5	21	Mixed Dry Recyclables	Pre-approved suppliers
Input Storage Area	100	417	Mixed Dry Recyclables	Pre-approved suppliers
Waste on Process Line	10	42	Mixed Dry Recyclables	Inspected in advance
Product 1 Storage area	600	1,154	Baled Paper & Cardboard	
Product 2 Storage area	500	1,250	Baled Plastic	
Product 3 Storage area	200	334	Baled Metal Cans	
Non-Recyclable Residues	20	80	Residual MSW	One compactor of non-recyclable municipal waste. Replaced several times per day.
Total	1,436	3,362		

3.0 CRITERIA FOR SUCCESSFUL CLOSURE

The most appropriate closure scenario for this site is 'Clean Closure'. There is currently no known residual contamination at the site and the planned processing of mixed dry recyclables does not pose a significant risk of contributing to residual contamination of soils or groundwater at the site.

After full clean decommissioning, there is no requirement for aftercare management for environmental protection purposes. There is also no requirement for demolition of the buildings or other infrastructure as the site can be sold or leased for similar or alternative uses.

Successful closure of the site will be achieved when the following criteria are met:

- All waste materials are removed from the site and recovered or disposed in an appropriate manner at an appropriately licensed or permitted facility.
- The plant and equipment is clean and has a positive value or has been removed from site and recovered or disposed in an appropriate legal manner.
- Site floors and yards are clean.
- Hydrocarbon interceptors and silt traps are cleaned of all contaminants.
- All potentially polluting materials such as drums of hydraulic or engine oils are removed from site, preferably for reuse elsewhere.
- A closure validation report is issued and includes monitoring data indicating that there is no residual contamination at the site and no potentially polluting materials left on site.
- Relevant records of site clearance and clean-up are available for EPA inspection, including destination details of all waste materials removed from site.
- The EPA is satisfied that the site no longer poses a risk of environmental pollution.

4.0 CLOSURE TASKS AND COSTINGS

4.1 Plant and Equipment Decontamination

As the only materials to be handled at the site are dry recyclables, there will be no requirement to decontaminate the plant and equipment in the event of sudden closure of the facility.

4.2 Plant and Equipment Decommissioning

The site will be fitted with modern hi-tech recycling plant and equipment that will have significant second-hand value and would be unlikely to be abandoned on site for an extended time period. It may take a few months to sell the plant and equipment, but as it will not be contaminated, it will not cause environmental damage during that period.

The scrap metal value of this equipment would also be attractive, so even obsolete or damaged pieces of equipment would have a re-sale value. Mobile plant generally contains fuel tanks, but we expect that any residual fuel would be handled in an appropriate manner at a waste licensed or waste permitted site, where such scrap metal is recovered.

There is the possibility that some plant and equipment could have no re-sale value and a low metal content so we suggest a contingency of **€1,000** for removal and disposal of unwanted plant and/or equipment.

4.3 Demolition

The facility is located in an industrial estate on the southern outskirts of Cork City. The fully decommissioned site would consist of a number of buildings and yards that would be suitable for a number of uses, subject to appropriate planning permission. There will be no immediate requirement to demolish the buildings after closure as the buildings add significant value to the site.

4.4 Removal of Waste Materials

It is hoped that site closure will occur in an orderly manner with waste materials removed in advance of closure. However, there is a risk that sudden and unforeseen closure could occur and waste materials could be left on site. In this scenario, we assume that the maximum storage quantities, as described in Table 2-2 above are on site when the site closes.

In Table 4-1 below, we apply costs for the removal of these materials to appropriate recovery or disposal facilities.

The baled single stream recyclables will have positive value and can be sold. However, we take the conservative view that they will be collected from site free of charge.

Table 4-1 – Maximum Costs for Removal of Waste Materials

Location of waste	Tonnes	Cubic metres	Unit cost (per tonne) for - removal AND - disposal in case of sudden closure	Cost (euro)	Disposal route and/or technique	Notes, rationale, clarifications
Quarantine areas	1	4	150	150	Landfill (125) plus transport (25)	Dry recyclables only, so quarantine area is likely to have non-recyclable municipal waste
Inspection areas	5	21	60	300	Dry Recyclable MRF (35) plus transport (25)	Assume Dry Recyclables sent to alternative MRF
Storage areas (untreated waste)	100	417	60	6000	Dry Recyclable MRF (35) plus transport (25)	Assume Dry Recyclables sent to alternative MRF
Waste on Process Line	10	42	60	600	Dry Recyclable MRF (35) plus transport (25)	Assume Dry Recyclables sent to alternative MRF
Storage area (baled paper & card)	600	1,154	0	0	Dry Recyclable MRF or broker (collected)	Assume bales of paper/card are collected from site for free
Storage area (baled plastic)	500	1,250	0	0	Dry Recyclable MRF or broker (collected)	Assume bales of plastic are collected from site for free
Storage area (baled metal cans)	200	334	0	0	Dry Recyclable MRF or broker (collected)	Assume baled metal cans are collected from site for free
Non-Recyclable Residues	20	80	150	3000	Landfill (125), WtE or SRF production plus transport (25)	One compactor of non-recyclable municipal waste. Replaced several times per day.
Total	1,436	3,302		10,050		

4.5 Removal of Other Potential Pollutants

Effluent

Upon decommissioning of the site, the hydrocarbon interceptors and silt traps should be cleaned out by an appropriately permitted company and the effluents and sludges disposed appropriately.

The large underground water retention tank could contain a significant volume of sludge or other materials which would be removed off site for proper treatment and disposal. We estimate that this would cost a maximum of **€3,000**. This is based on the costs quoted by Munster Drain when FHRL arranged the cleaning the two interceptors in Q3 of 2015. Munster Drain charged €130 per hour for cleaning and €150 per tonne for disposal of contaminants.

Diesel Storage

There is no diesel storage planned on site.

Chemical / Oil Product Storage

There may be a requirement for storage of other chemicals and oils on site, such as paints or white spirit for maintenance purposes and various drums of hydrocarbon products including hydraulic and engine oils.

Upon decommissioning, these potentially polluting materials should be removed from site. However, the materials are not specific to the waste industry and can be used in many businesses. For this reason, we consider that most will have a positive value and unusable materials, such as open paint cans or out of date chemicals could be removed and appropriately disposed for **€500** or less.

4.6 General Clean-up

When all plant, machinery and waste materials are removed from the site, the floors of the buildings and the yard areas should be cleaned with a roadsweeper. We estimate that this can be achieved at a cost of less than **€3,000**.

4.7 Closure Validation Report

A site inspection and validation report prepared by an independent consultant will be required by the EPA to validate clean closure of the site. As the potential for contamination of soil and groundwater is low, we do not envisage an intrusive investigation in this scenario. We therefore expect that the report would be completed for a fee of ca. **€3,000**.

The report should include validation that the interceptors have been cleaned out and details on the destination of all wastes and other potentially polluting materials removed from site. The water run-off from site should be proven to be clean and groundwater in the on-site well should also be tested to validate that there is no contamination of the groundwater at the site.

4.8 Environmental Monitoring Costs

It is assumed that during the licence surrender period and in support of the closure validation report that there will be one or two rounds of sampling surface water and groundwater at the site. There may also be a requirement for an Annual Environmental Report at the end of the closure year.

We estimate that **€2,000** will be more than adequate to cover these costs.

4.9 Sundries

Upon closure, there may be a number of additional costs such as disconnection of electricity supply and securing the site against intruders. As there will be no environmental risks posed by the site at the end of the closure period, there will be no need for active management of the site when it is closed and secure.

We suggest allowance of an additional **€2,000** to cover such sundry items.

4.10 Summary of Closure and Decommissioning Costs

Our estimate of the costs of decommissioning the site upon closure is set out in Table 4-2 below.

Table 4-2 – Estimated Cost of Decommissioning after Closure

Item	Estimated Cost
Removal of Waste Materials	€10,050
Plant or Equipment Decontamination	€1,000
Cleaning Effluent Tank, Hydrocarbon Interceptors & Silt Traps	€ 3,000
Removing Unusable Chemicals / Hydrocarbons	€ 500
Road Sweeping of Floors and Yards and hosing down of walls	€ 3,000
Sundries	€ 2,000
Site Inspection & Validation Report	€ 3,000
Environmental Monitoring & AER	€2,000
Total	€ 24,550

4.11 Closure Plan Update and Review

The Closure Plan should be updated and reviewed regularly to take account of site activities and relevant costs. The costs estimated in this report are based on assumptions of current site activities and current market conditions. Significant changes to site activities should trigger a review of the Closure Plan. Otherwise an annual update is considered more than adequate.

5.0 PROGRAMME FOR CLOSURE AND DECOMMISSIONING OF SITE

As there is no existing known contamination at the site and no planned sources of significant contamination, the Closure and Decommissioning Plan can be progressed in a short timeframe. We expect that the site should be cleared and cleaned within 6 weeks of closure. A further 6 weeks may be needed for monitoring and closure validation, so a total of 12 weeks should be adequate.

6.0 CONCLUSIONS

Provision should be made for an expected liability of **€24,550** to cover closure and decommissioning costs.

7.0 CLOSURE

This report has been prepared by SLR Consulting Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and publicly available data and has been accepted in good faith as being accurate and valid.

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