



Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

WASTE LICENCE
TECHNICAL AMENDMENT

Licence Register Number:	164-1
Applicant/Licensee:	Dunloe Ewart plc
Location of Facility:	<p>‘Former Hammond Lane Metal Company\Molloy & Sherry Site’.</p> <p>Site Contained by the following street frontages: Sir John Rogerson’s Quay to the North; Britain Quay to the East; Green Street East to the South; and Benson Street to the West, Dublin 2</p>

Reasons for the Decision

Waste Licence Reg. No. 164-1 is amended for the purposes of facilitating the operation of the licence. The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of licence Reg. No. 164-1 granted on the 15/10/2002, any emissions from the facility will comply with and not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2003.

Activities Licensed

In pursuance of the powers conferred on it by Section 42B(1)(c) of the Waste Management Acts 1996 to 2003, the Agency amends Licence Reg. No. 164-1, granted to Dunloe Ewart plc., 'Former Hammond Lane Metal Company\Molloy & Sherry Site'. (Site Contained by the following street frontages: Sir John Rogerson's Quay to the North; Britain Quay to the East; Green Street East to the South; and Benson Street to the West, Dublin 2).

The technical amendment is limited to the following schedules and conditions of Licence Reg. No. 164-1:

INTRODUCTION

This waste licence is for activities involving the remediation of contaminated soil by soil stabilisation and excavation for disposal, and contaminated groundwater by treatment through an above ground groundwater treatment system at a facility in the south Dublin Docklands to be developed for commercial and residential use by Dunloe Ewart plc.

The waste licence facility straddles four street fronts - Sir John Rogerson's Quay to the North; Britain Quay to the East; Green Street East to the South; Benson Street to the West, Dublin 2 - and covers an area of 2.1 hectares. Soil contamination lies randomly across the site mainly in the shallow made ground. The contaminants include arsenic, copper, lead, PAHs, and mineral oil. Groundwater in the underlying gravels is contaminated by PAHs, mineral oil and certain metals.

Past usage of the site includes:

- Lime Works (1859 – 1868)
- Alkali Manufacturers (1867 – 1895)
- Chemical Fertiliser Manufacturer (1868 – 1876)
- Shipping Yard (1900 – 1911) Storage of oil and materials
- Coal Yard (1946 – 1959)
- Hammond Lane Metal Co. (1977 – 1996): Scrap Yard: metals, oil, hydrocarbons

The remediation strategy for the facility is the redevelopment of the site with the installation in the first phase of a vertical cut off wall (secant pile wall) along the perimeter of the site and keyed into the glacial till. The second phase of the project will require dewatering of the site. Abstracted groundwater will be routed through a groundwater treatment system to remove observed free phase product, and to reduce dissolved organic contaminants as well as metal concentrations prior to discharge to Dublin City Council Sewer. As the site is dewatered the contaminated soil will be excavated and removed off-site for disposal/recovery prior to commencement of construction.

It is anticipated that the licence will be in place for approximately four years.

Amend Part I to read:

Part I Activities Licensed

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Act 1996

Class 13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced: This activity is limited to the storage and separation of clean inert material prior to re-use on site. The storage activity is related to production of low permeability hard standings required for the secant pile wall installation activities.
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Licensed Waste Recovery Activities, in accordance with the Fourth Schedule
of the Waste Management Act 1996

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes): This activity is limited to the reclamation of hazardous contaminated soil, its treatment by soil mixing on site or export off-site for processing at a licensed facility and the treatment of hazardous contaminated groundwater by an above ground groundwater treatment system.
Class 3	Recycling or reclamation of metals and metal compounds: This activity is limited to the recovery of inorganic trace metals from the above ground groundwater treatment system on a periodic basis.
Class 4.	Recycling or reclamation of other inorganic materials: This activity is limited to the reclamation of hazardous contaminated soil and groundwater and treatment of contaminated soil by soil mixing on site and contaminated groundwater by above ground groundwater treatment technology.
Class 13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced: This activity is limited to the storage of source-zone contaminated soil and the temporary storage of materials arising from the activities involved in the construction of the secant pile wall.

Amend Interpretation as follows:

INTERPRETATION

Delete the following:

Permeable Reactive Barrier (PRB)	An emplacement of reactive materials in the subsurface designed to intercept a contaminant plume, provide a flow path through the reactive media, and transform the contaminant(s) into environmentally acceptable forms to attain remediation concentration goals downgradient of the barrier.
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PART II CONDITIONS

Amend Condition 1.5 to read:

1.5. Waste Acceptance Hours and Hours of Operation

- 1.5.1 Waste activities, other than operation of an above ground groundwater treatment system, shall only be carried out at the facility between the hours of 7.30 a.m. and 7.30 p.m. Monday to Saturday.

Amend Condition 3.8.1 to read:

3.8 Wastewater Treatment Plant

- 3.8.1 Prior to the commencement of waste activities at the facility and for the duration of the construction phase the licensee shall install and maintain an above ground groundwater treatment system on the facility to treat contaminated groundwater arising from the facility subject to Schedule C: Emission Limits.

Amend Condition 3.11 to read

3.11 Groundwater Management

- 3.11.1 Prior to the commencement of waste activities at the facility, the licensee shall install a secant pile wall (groundwater cut-off wall) along the perimeter of the site and install an above ground groundwater treatment system. The secant pile wall will be keyed 2.0m into the sub-glacial till unit (c. -14.3mAOD).
- 3.11.2 The design and engineering aspects of the secant pile wall and above ground groundwater treatment system shall be submitted to the Agency for its agreement as per Condition 3.2, Specified Engineering Works.
- 3.11.3 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:
- a) the protection of the groundwater resources from pollution by the waste activities; and
 - b) the protection of other infrastructure, such as the groundwater cut-off wall, from any adverse effects caused by the groundwater.

Delete Condition 4.2

Delete Condition 5.1.3.

Amend Condition 5.4 to read:

5.4. Off-site Disposal and Recovery

- 5.4.1 The classification and stockpiling of all material or soil arising from the remediation of the facility and the installation of the secant pile wall and the above ground groundwater treatment system shall be in accordance with Attachments D.1 (h) & (i), D.2.1.3, and D.2.1.4 of the application. At least one representative sample per 800m³ or portion thereof must be taken for chemical analysis prior to off-site disposal or recovery. Testing should also determine particle size distribution. Chemical analysis parameters and maximum concentrations shall be as agreed in advance with the Agency. The results of this analysis must be submitted to the Agency for agreement before the first batch of material is taken off-site.
- 5.4.2 All wastes including depleted activated carbon wastewater treatment media, other than those recovered in accordance with *Condition 5.3.1.1*, shall be exported from the facility and disposed of or recovered at an appropriate facility or facilities to be agreed in advance with the Agency.

Amend Condition 6.4.9 to read:

- 6.4.9. The licensee shall submit monitoring results to the Sanitary Authority on a fortnightly basis, the monitoring results shall include, volume of discharge, average COD (mg/l), average suspended solids (mg/l) and parameters as specified in Schedule D6.

Insert Condition 6.4.13:

- 6.4.13. The licensee shall suspend the final effluent discharge to sewer during periods of rainfall. The licensee shall agree a management procedure for suspending the discharge during periods of rainfall with Dublin City Council and the Agency prior to commencement of discharge to sewer.

Amend Condition 8.5 to read:

- 8.5. Monitoring and analysis of the soil to ensure compliance with Condition 5.1.1 (d) shall be as described in *Method Statement for Excavation Works. Questor, QUB* (Article 16(1) reply dated March 2002), or as otherwise agreed in advance with the Agency.

Amend Condition 8.7 to read:

8.7. Groundwater Monitoring

- 8.7.1 The groundwater monitoring points as described in *Schedule D: Monitoring*, of this licence shall be included in the monitoring programme set out in this licence.

Amend Schedule B Specified Engineering Works to read:

Schedule B: Specified Engineering Works

Specified Engineering Works

1. Design and construction of the continuous secant pile wall. The proposal should include the exact location of the secant pile wall.
2. Design, construction and operation of over-ground groundwater treatment system.
3. Installation of Wheel Cleaning
4. Design and construction of the conveyor to transport waste to ships.
5. Bunding of fuel and oil storage areas.
6. Restoration and Aftercare Works.

Any other works notified in writing by the Agency.

Amend Schedule C3 Emission Limits for Final Effluent Being Discharged to Sewer:

C.3 Emission Limits for Final Effluent Being Discharged to Sewer

Emission Point Reference No: Sewer at Benson Street

Volume to be emitted: Maximum in any one day: 1300m³

Parameter	Emission Limit Value		
	Grab Sample (mg/l)	Daily Mean Concentration (mg/l)	Daily Mean Loading (kg/day)
BOD	50	30	39
Ammoniacal nitrogen (NH ₄ - N)	50	30	39
Suspended Solids	70	50	65
Sulphates (as SO ₄)	1,500	1,100	1430
PH	6 to 10	6 to 10	Not Applicable
Temperature	42 °C	42 °C	Not Applicable
PAH's (Total of 16)	0.5	0.5	0.65
Mineral Oils	20.0	10.0	13
Arsenic (mg/l As)	1	1	1.3
Cadmium (mg/l Cd)	0.5	0.5	0.65
Chromium (mg/l Cr)	5	5	6.5
Lead (mg/l Pb)	1	1	1.3
Copper (as Cu)	5.00	5.00	6.5
Zinc (as Zn)	10.0	10.0	13

Amend Schedule D.1 Monitoring Locations, D4 Groundwater, and D6 Monitoring of Emissions to Sewer

D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1

Table D.1.1 Monitoring Locations

Dust & Noise Stations	Ground Water Stations
Four dust and noise locations shall be agreed with the Agency within one month of the date of grant of licence.	Four off-site monitoring wells, their locations shall be agreed with the Agency within one month of the date of grant of licence.

D.4 Groundwater

Table D.4.1 Groundwater - Parameters / Frequency

Parameter ^{Note 1}	GROUNDWATER Monitoring Frequency
Groundwater Level	Continuously during installation of secant pile wall and initial de-watering. Following initial dewatering, monthly monitoring over a monitoring period of 48 hours.

D.6 Monitoring of Emissions to Sewer

Emission Point Reference No: Sewer at Benson Street -

Table D.6.1 Sewer Monitoring - Parameters / Frequency

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 1}
Flow	Continuous On Discharge	Flow meter / recorder
Biochemical Oxygen Demand	Fortnightly	Composite. Standard Method ^{Note 1}
Ammoniacal Nitrogen	Fortnightly	Composite. Standard Method ^{Note 1}
Suspended Solids	Fortnightly	Composite. Gravimetric
Sulphates (as SO ₄)	Fortnightly	Composite. Standard Method ^{Note 1}
pH	Fortnightly	Composite pH meter/recorder
Temperature	Fortnightly	Grab
PAH's (Total of 16)	Fortnightly	Composite
Mineral Oils	Fortnightly	Composite
Arsenic (mg/l As)	Fortnightly	Composite
Cadmium (mg/l Cd)	Fortnightly	Composite
Chromium (mg/l Cr)	Fortnightly	Composite
Lead (mg/l Pb)	Fortnightly	Composite
Copper (as Cu)	Fortnightly	Composite
Zinc (as Zn)	Fortnightly	Composite
Toxicity Units (as T.U.)	Fortnightly	Grab

Note 1: "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 19th Ed. 1995, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA".

Sealed by the seal of the Agency on this the 9th day of February, 2004

**PRESENT when the seal of the Agency
was affixed hereto:**

Padraic Larkin, Director

