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

Closed Landfill Recommended Certificate of Authorisation

Certificate of Authorisation Number:	H0364-01
Certification of Authorisation Holder:	Monaghan County Council
Location of Facility:	Killicard Historic Landfill, Killicard, Castleblayney, County Monaghan.

Glossary of Terms

All terms in this Certificate of Authorisation should be interpreted in accordance with the definitions in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008) unless otherwise defined in the Certificate of Authorisation.

Agency	Environmental Protection Agency.
Agreement	Agreement in writing.
Annually	At approximately twelve-monthly intervals.
Application	The application by the local authority for this Certificate of Authorisation including the risk assessment, any amendments to the risk assessment, additional information received from the local authority and other documents provided by the local authority.
Certificate of Authorisation	Includes this document and the application.
Closed Landfill	As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.
Code of Practice	As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.
Biannually	All or part of a period of six consecutive months.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this Certificate of Authorisation.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this Certificate of Authorisation.
Environmental Pollution	As defined in the Waste Management Act 1996 as amended.
Incident	The following shall constitute an incident for the purposes of this Certificate of Authorisation: <ul style="list-style-type: none">(i) an emergency;(ii) any emission which does not comply with the requirements of this Certificate of Authorisation;(iii) any trigger level specified in this Certificate of Authorisation which is attained or exceeded; and(iv) any indication that environmental pollution has, or may have, taken place.

Inert Waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.
Necessary Measures	As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.
Risk Assessment	As defined in the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008.
Sample	Unless the context of this document indicates to the contrary, the term sample or samples shall include measurements taken by electronic instruments.
Status	As defined in the Water Framework Directive, in relation to surface water and groundwater.
The Local Authority	Monaghan County Council, County Offices, The Glen, Monaghan.
Trigger Level	A parameter value the achievement or exceedance of which requires certain actions to be taken by the local authority.

Part I Authorisation of a Closed Landfill

The Environmental Protection Agency (the Agency) proposes to grant, under Regulation 7(5) of the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (the Regulations), this Certificate of Authorisation to **Monaghan County Council, County Offices, The Glen, Monaghan**, in respect of the closed landfill at **Killycard, Castleblayney, County Monaghan**, subject to Conditions set out in Part II and the Reasons for the Decision in Part III.

Part II Conditions

Condition 1. Scope

- 1.1 For the purposes of this Certificate of Authorisation, the closed landfill authorised by this Certificate of Authorisation is the area of land outlined in red on **Figure No. 2.7 Revision A titled ‘Existing Site Layout Killycard’ (Figure date: 15/06/2018)** submitted with the application. Any reference in this Certificate of Authorisation to “closed landfill” shall mean the area thus outlined in red.
- 1.2 No waste shall be accepted at the closed landfill.
- 1.3 No waste shall be burned at the closed landfill.
- 1.4 The facility shall be controlled, operated and maintained, and emissions shall take place as authorised by this Certificate of Authorisation. No material change that will result in an increase in the actual or potential nature or quantity of any emission shall be carried out or commenced without the agreement of the Agency.
- 1.5 Nothing in this Certificate of Authorisation shall prohibit authorised beneficial uses of the site of the closed landfill that do not interfere with the integrity of the remediation measures adopted.

Reason: <i>To clarify the scope of this Certificate of Authorisation.</i>
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Condition 2. Notifications, Records and Reports

- 2.1 The local authority shall notify the Agency, in a format as may be specified by the Agency, two months in advance of the intended date of commencement of the remediation works.
- 2.2 The local authority shall notify the Agency as soon as practicable after the occurrence of any incident. The incident notification shall be provided in a format as may be specified in relevant guidance issued by the Agency.
- 2.3 The local authority shall keep the following documents available for inspection by the Agency at all reasonable times and to members of the public by request:
- (a) Records of all sampling, analyses, measurements, examinations, calibrations and maintenance;
 - (b) Records of incidents;
 - (c) Records of all complaints of an environmental nature;
 - (d) The validation report prepared on completion of the remediation; and
 - (e) Other documentation required by this Certificate of Authorisation or as may be otherwise directed by the Agency.
- 2.4 Environmental Liabilities
- The local authority shall put in place and maintain a financial provision for costs of likely events or accidents/incidents related to the closed landfill and associated works.
- 2.5 The local authority shall annually pay to the Agency €1,083, or such sum as the Agency from time to time determines in accordance with charges policy, for the performance of its functions under the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 in relation to the closed landfill regulated by this Certificate of Authorisation.

Reason: *To provide for the collection and reporting of adequate information on the activity. To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*

Condition 3. Management and Monitoring

- 3.1 The local authority shall implement the following measures within 18 months of the date of grant of this Certificate of Authorisation, or as otherwise agreed by the Agency:
- (a) **Remove waste deposited in the Corrinshigo Lough and Corrinshigo Stream;**
 - (b) Minimise the disturbance of deposited waste to the extent possible;
 - (c) Install a low permeability landfill cap, minimum 1m, with 1mm thick low permeability geomembrane having a hydraulic conductivity of less than or equal to $1 \times 10^{-9} \text{m/s}$;
 - (d) Install passive gas venting system, which includes gravel filled vent trench with fans for gas extraction **along the eastern edge of the capped area. The gas venting system shall meet the following requirements:**
 - (i) **The base of the trench shall be constructed at the depth of the maximum depth of the waste body;**
 - (ii) **Gas vent pipes with fans** shall be installed **within** the trench every 20m and at other locations, as appropriate, such that the increased back-pressure caused by the cap does not result in increased lateral movement of gas;
 - (iii) The trench shall be connected to the existing gas wells; and
 - (iv) The gas vent pipes shall not be perforated above the ground level.
 - (e) **Install perimeter gas monitoring boreholes along the eastern and south-western site boundary of the facility. The gas monitoring boreholes shall be installed at a distance not exceeding 50m from each other;**
 - (f) **Install a vertical cut-off and leachate interception trench;**
 - (g) **Install three leachate monitoring boreholes within the waste body;**
 - (h) **Install at least three gas monitoring boreholes outside the waste body, of which one shall be upgradient of the waste body and two of which shall be downgradient of the waste body;**
 - (i) **Install at least three groundwater monitoring boreholes, of which one shall be upgradient of the waste body and two of which shall be downgradient of the waste body;**
 - (j) Reseed grass within the site;
 - (k) **Install continuous gas monitoring, gas vents and gas alarms in the on-site industrial units;**
 - (l) Ensure that recommendations in the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions have been considered and applied to all buildings constructed on the facility;

- (m) The local authority shall, **following gas monitoring, as required under Condition 3.9(c), for a period of twelve months**, seek agreement of the Agency **regarding whether to carry out a gas pumping trial**; and
- (n) **Upon any agreement obtained in accordance with Condition 3.1(m)**, the local authority shall **submit details of the proposed gas pumping trial for agreement by the Agency**, and implement any recommendations arising therefrom.

3.2 Site Notice Board

- (a) The local authority shall, within one month of the date of grant of this Certificate of Authorisation and for the duration of the remediation works, provide a Site Notice Board on the closed landfill site so that it is legible to persons outside the main entrance to the closed landfill site. The minimum dimensions of the board shall be 1200 mm by 750 mm.
- (b) The board shall clearly show:
 - (i) The name of the Certificate of Authorisation holder;
 - (ii) The name of the closed landfill site;
 - (iii) The Certificate of Authorisation reference number;
 - (iv) The contact telephone in relation to the remediation works; and
 - (v) Where information relating to the closed landfill site can be obtained.

3.3 The local authority shall manage the closed landfill to ensure that discharges and emissions from the closed landfill do not cause environmental pollution or deterioration in the status of the receiving surface water body or groundwater body.

3.4 **The local authority shall carry out appropriate monitoring on a biannual basis to identify any impact on the quality of water abstracted at wells downgradient of the landfill.**

3.5 **The local authority shall, within six months of the date of grant of this Certificate of Authorisation, obtain an agreement from Irish Water for the acceptance of the landfill leachate at the Waste Water Treatment Plant.**

3.6 The local authority shall compile a validation report in accordance with the requirements of the Code of Practice. Unless otherwise agreed, the validation report shall be submitted to the Agency within 30 months of the date of grant of this Certificate of Authorisation.

3.7 The local authority shall assess the results of all monitoring carried out to confirm whether the closed landfill continues to achieve the objectives set for it in the risk assessment or this Certificate of Authorisation.

3.8 The local authority shall submit to the Agency, by the 31st March of each year, an annual update covering the previous calendar year. This update, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in Condition 3.9 of this Certificate of Authorisation.

3.9 The local authority shall annually, or as otherwise prescribed by the Agency, conduct and record:

- (a) A visual inspection of the landfill to ensure that the condition of the site has not deteriorated;
 - (b) Monitoring (sample, analyse, characterise, and measure the level) **on a quarterly basis** of leachate in all leachate monitoring boreholes;
 - (c) Monitoring **on a quarterly basis** to detect the presence and concentration of landfill gas in all monitoring boreholes;
 - (d) Monitoring (sample, analyse and characterise) **on a quarterly basis of the Corrinshigo Stream** both upstream and downstream of the closed landfill. **The monitoring shall, as a minimum, include the following parameters: Biochemical Oxygen Demand (BOD) (mg O₂/l), Total Ammonia (mg N/l) and Molybdate Reactive Phosphorus (MRP) (mg P/l);**
 - (e) Monitoring (sample, analyse and characterise) **on a quarterly basis** of groundwater from:
 - (i) at the **additional upgradient and downgradient** groundwater monitoring boreholes; **and**
 - (ii) **the boreholes GW01, GW02 and GW03 within the waste body.****The monitoring shall, as a minimum, include the following parameters: Ammonia, Lead, Nickel and Coliforms.**
 - (f) The assessment of monitoring results against trigger levels and/or standard reference values for relevant pollutants including environmental quality standards in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, **as amended**, and European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended.
- 3.10 The location, frequency, methods and scope of monitoring, sampling and analyses, as set out in this Certificate of Authorisation, may be amended with the agreement of the Agency.
- 3.11 Soil and Stone Acceptance
- 3.11.1 Soil and stone imported for use in remedial, corrective or other engineering works at the closed landfill shall be greenfield soil and stone or soil and stone of equivalent nature and character in terms of chemical and physical contamination.
- 3.11.2 Documented acceptance, storage/stockpiling and utilisation procedures shall be operational in advance of receipt of such materials. Records shall be maintained showing the site of origin of the soil and stone and its nature.
- 3.12 No emissions, including odours and noise, from works carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary.
- 3.13 The local authority shall ensure that the closed landfill does not result in an impairment of, or an interference with, amenities or the environment at the facility or beyond the facility boundary (including those arising from emissions (including odours, noise, dust, litter and mud), vermin and birds).

3.14 **The local authority shall ensure, at all times after the grant of this Certificate of Authorisation, that all infrastructure and all equipment required under this Certificate of Authorisation has been and is:**

- (i) installed,**
- (ii) commissioned,**
- (iii) present on site, and**
- (iv) maintained in full working order.**

3.15 Wells and boreholes

3.15.1 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual "Landfill Monitoring".

3.15.2 All wellheads shall be adequately protected to prevent contamination or physical damage.

3.15.3 All wells and boreholes shall be adequately sealed to prevent surface contamination and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines "Decommissioning Redundant Boreholes and Wells", unless otherwise agreed by the Agency.

3.16 The local authority shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the risk assessment or this Certificate of Authorisation. The requirement with regard to off-site points is subject to the prior agreement of the landowners concerned.

3.17 Incidents

In the event of an incident the local authority shall immediately:

- (a) If necessary, contact the emergency services;
- (b) Carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- (c) Isolate the source of any such emission;
- (d) Evaluate the environmental pollution, if any, caused by the incident;
- (e) Identify and execute measures to minimise the emissions/malfunction and the effects thereof;
- (f) Identify the date, time and place of the incident; and
- (g) Notify the Agency (in accordance with Condition 2.2) and all other relevant authorities including, where relevant, the Water Services Authority and Inland Fisheries Ireland.

3.18 **Invasive Species Prevention and Eradication Plan**

The Certificate of Authorisation holder shall establish, maintain and implement an invasive species prevention and eradication plan, to cover at least, Japanese Knotweed, Giant Knotweed, Bohemian Knotweed and any other relevant invasive species. The plan shall as a minimum identify specific actions for:

- (h) the prevention, to the extent possible, of acceptance of invasive species in loads of soil and stone or of topsoil arriving at the facility, actions to include requesting of information on the presence and management of invasive species at source sites;
- (i) quarterly surveys of filled areas for the detection of the growth of invasive species;
- (j) the method for plant detection and identification;
- (k) the remedial actions for eradication of invasive species growing at the facility;
- (l) staff training on plant identification and eradication, and
- (m) validation to confirm the absence of invasive species at the restored facility.

The Certificate of Authorisation holder shall maintain evidence of having obtained the advice and implemented the recommendations of an independent and appropriately qualified consultant, in the establishment of the Plan and any amendments to it that concern the action items listed above.

3.19 Communications Programme

3.19.1 The Certificate of Authorisation holder shall establish, maintain and implement a Communications Programme to ensure that members of the public can obtain information from the local authority concerning the closed landfill.

3.19.2 The Communications Programme shall inform members of the public what they can and should do to protect their property and health.

3.19.3 The local authority shall, as part of the Communications Programme, publish landfill gas monitoring data quarterly and landfill leachate monitoring data biannually in a manner accessible by the public.

Reason: *To make provision for the proper closure of the activity ensuring protection of the environment.*

Part III: Schedules

Schedule 1: Reasons for the Decision

In proposing to grant this Certificate of Authorisation, the Agency determines that the risk assessment submitted by the local authority as part of the application for a Certificate of Authorisation is adequate. To ensure appropriate protection for human health and the environment and to ensure conformity with the provisions of Council Directive 2008/98/EC and Council Directive 2006/118/EC, the conditions set out in Part II of this Certificate of Authorisation are specified as further necessary measures in addition to those identified by the risk assessment.

The Agency also considers that the activity will not adversely affect the integrity of any European Site, and has decided to impose conditions for the purposes of ensuring it does not do so. It has determined that the activity, if managed, operated and controlled in accordance with the Certificate of Authorisation, will not have any adverse effect on the integrity of any of those sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at Dundalk Bay SAC (Site Code: 000455), Dundalk Bay SPA (Site Code: 004026) and Slieve Gullion NI SAC (Site Code: 0030277).

The activity is not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it cannot be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the activity was required.

The reason for this determination is as follows:

- There is a hydrological connection between the closed landfill and Dundalk Bay SAC (Site Code: 000455) and Dundalk Bay SPA (Site Code: 004026).

The Agency has completed the Appropriate Assessment of potential impacts on these sites and has made certain, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the activity, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular Dundalk Bay SAC (Site Code: 000455), Dundalk Bay SPA (Site Code: 004026) and Slieve Gullion NI SAC (Site Code: 0030277), having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with the application, risk assessment and this Certificate of Authorisation and the conditions attached hereto for the following reasons:

- specifically, the remedial works will be undertaken to minimise the potential for water pollution in Dundalk Bay SAC (Site Code: 000455) and Dundalk Bay SPA (Site Code: 004026) and will ensure that there will be no significant impact on these European Sites;
- the project alone, which consists of the remediation of the closed landfill, or in-combination with other projects, will not adversely affect the integrity, and conservation status of any of the qualifying interests of Dundalk Bay SAC (Site Code: 000455) and Dundalk Bay SPA (Site Code: 004026);
- also, there are no significant emissions to air from the landfill which could affect the bird species that the Dundalk Bay SPA (Site Code: 004026) is designated for; and
- there is no hydrogeological connectivity between the closed landfill and Slieve Gullion NI SAC (Site Code: 0030277).

The Agency is satisfied that no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites: Dundalk Bay SAC (Site Code: 000455), Dundalk Bay SPA (Site Code: 004026) and Slieve Gullion NI SAC (Site Code: 0030277).

Part IV: SIGNATURE / SEAL

Draft Certificate of Authorisation Sign off

Signed on behalf of the said Agency

On the ** day of **, 20** XXXX, **Authorised Person**
