



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

Closed Landfill

Recommended Certificate of Authorisation

Certificate of Authorisation Number:	H0210-01
Certification of Authorisation Holder:	Kildare County Council
Location of Facility:	Carrigeen Clane County Kildare

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.
Quarterly	All or part of a period of three consecutive months.
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.
The Local Authority	Kildare County Council, Áras Chill Dara, Devoy Park, Naas, County Kildare.
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 **Kildare County Council, Áras Chill Dara, Devoy Park, Naas, County Kildare.**, in respect of the closed landfill at **Carrigeen, Clane, County Kildare**, 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 Drawing No. **ERA/C/DIG (Tier 1 Report)** submitted with the application. Any reference in this Certificate of Authorisation to “closed landfill” shall mean the area thus outlined in **red**. Activities associated with the closed landfill shall be carried on only within the area outlined.
- 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 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.
- 2.2 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:
 - 2.2.1 records of all sampling, analyses, measurements, examinations, calibrations and maintenance;
 - 2.2.2 records of incidents;
 - 2.2.3 records of all complaints of an environmental nature;

- 2.2.4 the validation report prepared on completion of the remediation; and
- 2.2.5 other documentation required by this Certificate of Authorisation or as may be otherwise directed by the Agency.
- 2.3 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.
- 2.4 The local authority shall annually pay to the Agency **€1,100**, 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 12 months of the date of grant of this Certificate of Authorisation, or as otherwise agreed by the Agency.
- a) **Install gas protection measures including the installation of a gas collection trench around the waste body perimeter with a series of gas ventilation pipes. The trench shall be a minimum of 500mm wide, extend to a minimum of 3m below ground level, and lined with a permeable membrane. The trench shall be backfilled to the surface with granular fill that should be no less than 25mm in diameter and of limestone origin**
 - b) **Install 100mm diameter gas ventilation pipes located at 20m centres along the gas collection trench and extending from the base of the trench to a minimum of 200mm above the top of the trench.**
 - c) **Install a minimum of three vertical ventilation wells to the west of the gas collection trench to ventilate gas that may be present in the quarry footprint.**
 - d) **Install landfill cap, minimum 850mm of subsoil across the landfill area inside the gas collection trench footprint, compacted and graded to fall to the northeast corner, and covered with a minimum of 150mm of topsoil.**
 - e) **Install a minimum of eight vertical gas ventilation wells in the cap to reduce the build-up of landfill gas beneath the landfill cap.**

- f) **Install and maintain appropriate surface water management measures and ensure that no surface water drainage is constructed within the waste body.**
 - g) **Fit all leachate and groundwater monitoring wells with gas caps.**
 - h) **Minimise the disturbance of deposited waste to the greatest extent possible**
- 3.2 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.
- 3.3 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.
- 3.4 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.
- 3.5 The local authority shall biannually **(except for landfill gas)** conduct and record:
- a) a visual inspection of the landfill to ensure that the condition of the site has not deteriorated.
 - b) monitoring for leachate (sample, analyse, characterise, and measure the level of leachate) in all leachate monitoring boreholes;
 - c) monitoring to detect the presence and concentration of landfill gas in all monitoring boreholes **on a quarterly basis**;
 - d) monitoring (sample, analyse and characterise) of relevant surface waters both upstream and downstream of the closed landfill;
 - e) monitoring (sample, analyse and characterise) of groundwater from at least three available groundwater monitoring boreholes, two of which shall be downgradient of the closed landfill; and
 - 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 and European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended.
- 3.6 The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:-
- a) Methane, greater than or equal to 1.0% v/v; or
 - b) Carbon dioxide, greater than or equal to 1.5% v/v
- 3.7 In relation to surface emissions measured over the waste body and identified features, the following shall constitute a trigger level:-

- a) VOC greater than or equal to 50ppmv as methane average over capped area; or
 - b) VOC greater than or equal to 100ppmv as methane instantaneous reading on open surfaces within the landfill footprint; or
 - c) VOC greater than or equal to 500ppmv as methane around all identified features
- 3.8 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.
- 3.9 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.
- 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.
- 3.10 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.
- 3.11 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).
- 3.12 Wells and boreholes
- 3.10.1 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual "Landfill Monitoring".
 - 3.10.2 All wellheads shall be adequately protected to prevent contamination or physical damage.
 - 3.10.3 All wells & 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.
- 3.13 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.
- 3.14 Incidents
- In the event of an incident the local authority shall immediately:
- (i) if necessary, contact the emergency services

- (ii) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- (iii) isolate the source of any such emission;
- (iv) evaluate the environmental pollution, if any, caused by the incident;
- (v) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
- (vi) identify the date, time and place of the incident; and
- (vii) notify the Agency (in accordance with Condition 2.1) and all other relevant authorities including, where relevant, the Water Services Authority and Inland Fisheries Ireland.

3.15 Communications

- a) The local authority shall establish, maintain and implement a communications programme to inform the occupiers and owners of land and buildings adjacent to the closed landfill of the risks posed by landfill gas and its migration.
- b) The local authority shall, as part of the communications programme, publish gas monitoring data **quarterly** 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 2006/12/EC and Council Directive 80/68/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.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the proposed 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 the Ballynafagh Bog [SAC 000391], Ballynafagh Lake [SAC 001387], and Rye Water Valley/Cartron [SAC 001398].**

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 can 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 Sites and accordingly determined that an Appropriate Assessment of the activity was not required.

The reason for this determination is as follows:

- **Ballynafagh Bog [SAC 000391] and Ballynafagh Lake [SAC 001387] which is located approximately 5.5 km from the site, have no hydrological connection between them and the Carrigeen landfill site.**
- **Carrigeen landfill site is located 15 km from the Rye Water/Cartron Valley [SAC 001398]. Though the landfill site is hydrologically connected to the Rye Water/Cartron Valley SAC via River Liffey, it is the Rye River that flows into the River Liffey; thereby minimising or eliminating the risk of the River Liffey effecting the Rye Water Valley/Cartron SAC. Results of the Detailed Quantitative Risk Assessment also indicate that no exceedances were identified (of site specific levels) for the River Liffey.**

Part IV: SIGNATURE

Draft Certificate of Authorisation Sign off

Signed on behalf of the said Agency

On the xx day of xxxxx, 200X

xxxxxxxxxxxxx

Authorised Person