INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER 68-1
APPLICANT: Cork County Council
FACILITY: Youghal Landfill, Youghal Mudlands, Youghal, Co. Cork.
Inspector's recommendation: The licence be granted subject to conditions.

(1) Introduction

This application is for the continuation of an existing unlined facility (9ha) and for a proposed lined extension (6ha) into an adjoining greenfield area to the south of the existing facility. The landfill has been in operation since 1972 and 28,000 tonnes of waste was accepted in 1998 (municipal, commercial and inert). A Civic Waste Facility is also proposed for the site along with composting and C & D recovery facilities.
The landfill lies adjacent to the River Blackwater Estuary approximately two kilometres northeast of Youghal town. It is situated on low-lying reclaimed ground and is protected from tidal waters by a sea wall which runs along the northern and eastern side of the landfill. The facility is bounded on the north and east by tidal mudflats and on the south by agricultural land. The nearest residence is approximately 200m from the landfill adjacent to the N25. The Blackwater Estuary is a designated Special Protection Area (S.I. 349 of 1994) under the EU Birds Directive (97/409/EEC).

I recommend the grant of a licence that will allow the continuation of the present unlined landfill and the development of the proposed lined extension. No landfilling or other waste activity is to be allowed on the saltmarsh complex which occurs along the eastern section of the facility (see Section 8 of this report).

Appendix 1 contains a location drawing and a proposed layout drawing (Dwg. 7) showing the significant features of the facility.

Quantity of waste to be deposited (tpa)	37,000
Environmental Impact Statement Required	Yes
EIS compliant	Yes
Number of Submissions Received	None

Site Visits

DATE	PURPOSE	PERSONNEL
30/10/98	Site notice check	Tadgh O'Mahony
18/12/98	Site visit	Brian Donlon & Tadgh O'Mahony
7/5/99	Site notice check	Brian Donlon
10/7/00	Site visit	Regina Campbell
13/9/00	Site visit	Regina Campbell, Tadgh O'Mahony and Brendan Foley

(2) Facility Development

It is proposed to develop a Civic Waste Facility for recyclables and a container where individuals can deposit waste for landfilling. Condition 5.18 requires proposals on composting and recovery of construction and demolition waste to be submitted.
A weighbridge, wheelwash and waste inspection/quarantine area are required as part of the proposed decision. New internal roads will be constructed to access the civic waste facility and the proposed lined extension. Condition 4.3 requires a security fence to be installed. This is to be situated such that the use of the perimeter walkway by the public on the sea wall is maintained.
The proposed extension will be developed in a phased manner. The liner system is specified under Condition 4.16. There is no leachate management system currently at the facility. Condition 4.17 requires leachate abstraction wells to be installed in the existing landfill area. A leachate collection system will be incorporated into the lined cells in the proposed extension. Leachate will be pumped to a leachate storage lagoon and subsequently treated at a wastewater treatment plant to be agreed with the Agency.
No management of landfill gas is currently taking place at the facility. Condition 4.18.1 requires that a landfill gas collection and flaring system be put in place in the existing landfill and this will be extended into the proposed extension as it is developed.
Potential nuisances are controlled by Condition 6. Due to the sensitivity of the area with regard to birds (adjacent to designated SPA) and the need to prevent birds from causing a nuisance, Condition 6.8 requires the licensee to make a proposal to the Agency dealing with bird control.
Hours of waste acceptance are outlined in Condition 5.8. The proposed end-use of the facility is for recreational purposes. Condition 8.1 asks for detailed restoration and aftercare plans to be submitted. Condition 8.2 requires that the final post-settlement height of the facility does not exceed 11m O.D.

(3) Waste Types and Quantities

Condition 5 controls the quantities and types of waste to be accepted at the facility. The total quantity of waste to be landfilled at the facility shall not exceed 37,000 tonnes per annum. No liquid wastes, hazardous wastes or animal wastes will be accepted for disposal at the facility. No sludge is accepted at the existing landfill. Treated sewage sludge and industrial non-hazardous sludge (with disposal permit from licensee) will only be accepted in the lined cells.

Total Quantities and Nature of Waste at Youghal Landfill (as per application 30/9/98).

	Inert Waste	Non-hazardous Waste (tonnes)	Hazardous waste (tonnes)	Total (tonnes)
Already deposited	50,000	70,000	0	120,000
To be deposited prior to closure	115,000	197,000	0	312,000
Total Capacity	165,000	267,000	0	432,000

(4) Emissions to Air

Emissions to air include landfill gas, landfill gas combustion products and dust.
Landfill gas monitoring is required under Condition 9.1 and trigger levels at perimeter locations and the site office are set in Condition 7.4.1. Dust and noise monitoring requirements are established under Condition 9.1 and emission limits are set under Schedule F.

(5) Emissions to Groundwater

The Waulsortian limestone which underlies the facility is classified as a locally important aquifer. Bedrock is anticipated to be between 35 and 40 metres below ground surface and was not encountered in any of the boreholes at the facility. Overburden groundwater is present in silts, sands and gravels. Groundwater flow direction is to the southeast and there are no groundwater abstraction wells within the 500 metre offset around the facility.
The landfill has been operated on the 'dilute and disperse' principle. Four groundwater monitoring wells were installed at depths ranging from 8m to 20m below ground surface. Monitoring indicated that the groundwater is influenced by tidal fluctuations indicating hydraulic continuity with the Blackwater Estuary. Wells MW1 and MW2 show the greatest influence from tidal fluctuations. The occurrence of ammonia in some of the monitoring wells indicates an impact on the groundwater from the landfill activities e.g. ammoniacal nitrogen of 5.8 mg/l in MW1 and 7.5 mg/l in MW4 (sampled September 1998). A sample of leachate seeping from the southern side of the landfill into a drainage channel was also analysed and this showed very high levels of ammoniacal nitrogen (469mg/l NH4-N). However the groundwater under the facility is considered to be permanently unfit for use, especially domestic or agricultural uses, due to the location of the facility adjacent to the shoreline and the salinity of the groundwater due to tidal influences.

Requirements of the proposed decision which will minimise the quantities of leachate being produced include the installation of an effective cap (Condition 4.19) and the installation of a leachate management system and subsequent treatment at a Waste Water Treatment Plant (Condition 4.17). Groundwater quality will be monitored under the conditions of the proposed decision. Due to the tidal influences on groundwater movements and the risk of surface water flooding at the facility, Condition 4.20.2 requires a groundwater and surface water management plan to be put in place during facility development works, operation, restoration and closure.

(6) Emissions to Surface Water

Drainage ditches flow along the southern and eastern boundaries of the existing landfill. These channels are influenced by saline ingress from the estuary and are amongst a number of west-east drainage ditches which drain the marshlands. Surface water flows into the estuary via sluice gates located approximately 1km to the south of the facility. Water samples taken from the drainage channel to the east of the existing landfill indicate slightly elevated ammoniacal nitrogen (3.3mg/l NH_3-N). However tidal flushing is probably preventing the build up of leachate in the drainage channels. The primary strategy for controlling surface water will be by the formation of a domed profile with run-off to the Blackwater Estuary. Condition 9.15 also requires an assessment of sediments and water in the estuary to be undertaken.
Surface water from areas of the civic waste facility where waste is stored, the waste inspection/quarantine area and wheelwash will drain via a silt trap and an oil separator to a foul water treatment system (Condition 4.14).

(7) Emissions to Sewer

None.

(8) Other Significant Environmental Impacts of the Development

Ecology
The saltmarsh complex which occurs on the eastern side of the existing landfill and proposed extension is notable because it holds large populations of the Hybrid Sea Couch, a rare Irish grass hybrid, confined to maritime and saltmarsh habitats. An ecological survey undertaken as part of the application concluded that this wetland complex should be protected due to the fact that these habitats are small in number and declining both locally and nationally. The fact that the facility is adjacent to an amenity walkway and close to a centre of population adds to its importance locally. Condition 5.6 prohibits landfilling on the saltmarsh complex.
The Blackwater Estuary is a designated Special Protection Area (S.I. 349 of 1994) under the EU Birds Directive (97/409/EEC). Within SPAs bird habitats must be protected from deterioration. Condition 6.3 will ensure that litter controls are in operation at the landfill so that the risk of waste entering this tidal channel is eliminated. Conditions 4.17 and 4.20 also require leachate and surface

water/groundwater management programmes which will minimise any direct entry of leachate to the Blackwater Estuary.
Condition 9.15 requires ecological monitoring of the facility and the SPA to be undertaken.

(9) Waste Management, Air Quality and Water Quality Plans

The Waste Management Plan for Cork County (1999) states that a licence application has been made for Youghal Landfill but that the site will close in the short-term. A draft Water Quality Management Plan for the Blackwater (Cork) was published in 1989 but was never finalised or adopted.

(10) Submissions/Complaints

None.

Signed _____ Dated:

Regina Campbell
Inspector, Environmental Management & Planning

APPENDIX 1
LOCATION MAP & LAYOUT PLAN