INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER: 88-1

FACILITY: Corbally Landfill, Blessington Road, Tallaght, Co. Dublin.

APPLICANT: Mr. Paul Joyce

INSPECTOR'S RECOMMENDATION: The licence be granted subject to

conditions.

(1) Introduction:

This application relates to a proposed development of an inert waste landfill including provisions for recycling of construction and demolition waste. The site comprises of approximately 29 hectares of which the applicant proposes depositing waste and capping material on in the order of 20 hectares. It is located 2-3km south east of Saggart and west of Tallaght Hill, sloping downwards towards the Blessington Road which runs immediately north of the site. The difference in height of the site from its highest point along the southern boundary to its lowest along the northern boundary is 55m. On the opposite side of the road to the site entrance there is a public house. The lands surrounding the facility are primarily agricultural. The application indicates in the region of 50 dwelling within 500m of the facility, 20 of which are within 250m. However, there has been a considerable amount of recent residential development to the north of the facility and the Blessington Road, as can be seen from some of the photographs included in Appendix 1.

Part of the site was historically a gravel quarry, considered to be within areas marked as Phases 1& 2 (which comprise approximately two-thirds of the site). The applicant stated that landfilling of builder's rubble has been undertaken at the facility since the 1940's and estimated that in the region of 150,000-170,000 tonnes of wastes were previously landfilled at the facility. This activity is considered to have been undertaken to fill in the areas identified as Phases 1 a& 2, although some waste appears to have also been deposited in the part of Phase 3 near to the stream running through the facility (identified as Stream 2). Effectively the application is for a landraise along with restoration in conjunction with the proposals for recovery of Construction and Demolition Wastes. The applicant had been issued with a permit from South Dublin County Council for the operation of an inert waste landfill during the period of 6th August 1996 to 5th August 1997. However, the Council revoked this permit on the 8th April 1997 for the reason of acceptance of material for landfilling that contravened the permit.

The classes of activity applied for by the applicant are as follows:

Disposal Activities

Class 1. Deposit on, in or under land (including landfill)

Recovery Activities

Class 4. Recycling or reclamation of other inorganic materials

Class 10. The treatment of waste on land with a consequential benefit for an agricultural activity or ecological system

Appendix 1 contains a number of maps (including a site location map and a layout plan) and photographs of the facility.

Description of Principal Activity	Deposit on, in or under land (including landfill)	
Quantity of waste (tpa)	e (tpa) 100,000 t/a	
Environmental Impact Statement Required	Yes. Received 16 th August 1999.	
Number of Submissions Received	Nine	
Date application received	ate application received 25th February 1999	

SITE VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
13/10/99	Site Inspection	D. Howley	Site notice observed near entrance. No evidence of any recent activity.
23/02/01	Site Inspection	D. Howley	Observed a number of horses and cattle grazing on site. Also observed a pipe, located near monitoring point SW3, protruding from western side of facility from which there was a discharge to stream (see photographs).

(2) Facility Development

Infrastructure

There is currently no site infrastructure in place at the facility. The applicant proposes to install a portacabin, a chemical toilet, mobile crushing and screening plant, an acoustic barrier, a wheelwash and bunded diesel fuel and waste oil storage tanks. Facility infrastructure is controlled by Condition 3 which also requires security gates and stockproof fencing (where necessary), a weighbridge, a waste inspection area, a waste quarantine area and a construction and demolition waste recovery area. Entrance to the facility is to be from the Blessington Road via a road running along and inside the western boundary of the facility.

Lining

In an Article 16 response received on 25th July 2000, the applicant proposed to initially fill Phase 4 with suitable low permeability soil and for the remaining phases to place a 1m thick layer of soil before filling operations commence. Condition 3.12 governs the lining system to be installed in areas to be landfilled in accordance with the Landfill Directive, except in areas being capped in accordance with Condition 4.3.

Leachate/Surface Water Management

The landfill will only be allowed to accept inert waste as controlled under Condition 1.4 and consequently the emphasis will be on the prevention of rainfall infiltration by the phased filling and completion of cells in order to maximise surface water runoff. Condition 3.14 sets out the requirements for surface water management at the facility.

Landfill Gas Management

Biodegradable waste is not acceptable for deposition at the facility under Condition 1.4 and consequently there should be no landfill gas generation at the facility. Historical landfilling has been carried out at the facility, which may have included quantities of biodegradable wastes. A permanent gas monitoring system is required for the site office under Condition 3.17.1(i). Condition 8.1 sets out the landfill gas monitoring requirements, which includes monitoring of groundwater wells.

Capping System

The applicant proposed to provide a capping system consisting of 500mm subsoil overlain by 250mm topsoil (Condition 4.3).

Restoration and Aftercare

The applicant proposes to restore the site for agricultural use. The applicant proposed final contours in keeping with the contours of the surrounding land. Condition 4 controls the Restoration and Aftercare of the facility including Condition 4.2, which specifies the final contours as proposed by the applicant subject to a number of revisions. The average typical depth of waste, proposed by the applicant, to be deposited at the facility (including capping layer of 750mm but excluding a basal liner) is 2.4m. Subject to the lining and capping requirements as set out in the recommended Proposed Decision this could in effect limit disposal of wastes to a typical depth of 0.65m.

Recycling Activities

In addition to the general site infrastructure the facility shall also include a Construction and Demolition Waste Recovery Area in accordance with Condition 3.16 of the recommended Proposed Decision. The applicant estimated that a maximum of 26,000 tonnes per annum of waste could potentially be recycled at the facility.

(3) Waste Types and Quantities

The applicant proposes to accept in the region of 30,000 tonnes of inert construction and demolition waste for disposal in the first year of operation increasing to a maximum of 100,000 tonnes per annum in year eight. An overall estimate of the quantity to be deposited at the facility was given as 729,000 tonnes (of which 163,564 tonnes and 65,432 tonnes are to be the subsoil and topsoil layers respectively which are to comprise the final capping). Condition 1.4 controls the quantities and types of waste to be accepted at the facility to an overall quantity of 100,000 tonnes per annum of inert waste. In line with the Government publication "Changing Our Ways", it also

requires under Condition 5.7 that in the period prior to 2003, 30% of all waste accepted at the facility be recycled, recovered or reused; increasing to 50% between 2003 and 2013 and to 85% from 2013 onwards.

(4) Emissions to Air

The potential sources of air emissions at the proposed facility are from dust and noise. Odour should not be an issue but is controlled under the general condition for nuisance - Condition 7.1.

Potential sources of dust emissions from the facility include the handling of waste, crushing of concrete, fugitive dust from the site roads and wind blown dust from landfilled/restored areas. Dust control measures at the facility are set out in Condition 7.3 - which includes measures proposed by the applicant such as; the use of water spraying of site roads in dry weather, an on site speed limit of 15 miles per hour and the use of a sprinkler system for the crushing and screening plant when in operation. Condition 6.1 sets emission limit values for dust deposition. Dust monitoring requirements are established under Condition 8.1 including Condition 8.9, which requires additional monitoring locations.

The sources of noise identified for the proposed facility are; site machinery such as a bulldozer and an excavator, the crushing and screening plant and the waste vehicles bringing waste and materials to and from the facility.

Noise monitoring and prediction modelling were carried out as part of the application. The following five locations were monitored;

- B1 (adjacent to the Embankment Public House north of facility)
- B2 (near to location of proposed crusher and screening plant on site)
- B3 (at rear of residential property northwest sensitive area)
- B4 (at rear of residential property northeast sensitive area)
- B5 (at front of residential property southeast sensitive area).

The applicant referred to traffic as being the dominant source of ambient noise in the area, with the exception of B5 - a residential property located to the south east of the facility. Locations B1, B3 and B4 are all located near to or on the Blessington Road. Other noise sources identified during the noise survey were aircraft and jet engine testing from Baldonnel aerodrome and traffic from industrial areas along the Naas Road.

Noise prediction modelling used noise levels recorded at a stone crushing facility [124dB(A)] and a screening facility [112dB(A)] operated in a quarry. In preparing the model it was assumed that a specified earthen mound (or equivalent acoustic screen) would be placed around the Construction and Demolition Waste Recovery Area. The results of the modelling predicted the following changes to the $L_{Aeq}(30mins)$ at the identified sensitive areas:

- B1 unchanged at 73dB(A)
- B3 increased from 47 dB(A) to 48 dB(A)
- B4 increased from 48dB(A) to 49 dB(A)
- B5 increased from 55dB(A) to 56 dB(A).

Condition 3.16 requires the provision of noise screening for the Construction and Demolition Waste Recovery Area in accordance with that referred to in the noise prediction modelling. Noise emission limits at a number of boundary monitoring locations near identified noise sensitive locations are established by Condition 6.1. Noise monitoring requirements are established under Condition 8.1 including Condition 8.6, which requires additional monitoring locations in the vicinity of the Construction And Demolition Waste Recovery Area.

(5) Emissions to Groundwater

The regional bedrock geology comprises of Lower Palaeozoic bedrocks from three formations. There are two northeast/southwest trending faults between the three formations in the area. These are identified as two ravines - one of which is situated to the west of the site and the other which runs through the facility. Both ravines contain a stream (identified in application as Stream 1 & 2 respectively).

The depth to bedrock ranges from in the region of 4m to greater than 13.7m. Subsoils comprise of high permeability sand and gravel with some clays as previously deposited material. Groundwater in the bedrock is confined, with recharge considered to be occurring to the south of the site where bedrock is located at or near the surface. The groundwater in the subsoils moves along the interface with the weathered shale bedrock in the direction of the deep ravine where it is considered to flow into the stream (Stream 2). The vulnerability of the groundwater in the subsoil is high while the aquifer classification is considered to be locally important.

Ten private wells and three springs were identified in the application as being within 500m of the facility. The majority of houses located to the northwest and northeast of the facility, along the Blessington Road, are reported to be on the public water supply. A number of the wells identified are located within 250m and downgradient of the facility.

Analysis of five boreholes was carried out as part of the application to ascertain background levels. High levels of iron and manganese were found in all cases - considered to be attributable to the rock formations of the areas such as shales. Analysis of BH5, located downgradient of the facility and east of the ravine/stream running through the facility, indicated phenol (0.5mg/l) at a level exceeding the MAC (0.0005mg/l) of the drinking water standards. It is possible that the source of this contamination is from previously deposited waste in the area identified as Phase 3 of the facility. Condition 8.7.2 of the recommended Proposed Decision requires investigations into the potential sources of phenol and actions to be taken in light of the findings. Condition 5.1 of the recommended Proposed Decision precludes the deposition of waste in any cell or part of the landfill without the prior agreement of the

Agency. There were also exceedances of the MAC of the drinking water standards for barium at BH3 (downgradient) and BH4 (upgradient). Condition 8.7.2 also relates to investigations into the potential sources of barium etc.

A number of measures are required by conditions of the recommended Proposed Decision to protect and monitor groundwater. Conditions 1.4 restricts the waste acceptance for disposal on site to that of inert wastes which satisfy the requirements of Appendix A. Condition 3.17.2 requires replacement groundwater monitoring wells, which provide for the monitoring of groundwater in subsoil and bedrock, to be installed and that redundant wells be plugged and backfilled to prevent potential contamination pathways. Condition 8.1 sets out the general groundwater monitoring requirements including Condition 8.7.1, which requires the monitoring, subject to owner approval, of all private wells within 250m of the facility.

(6) Emissions to Surface Water

There are two significant streams in the vicinity of the facility, one of which (identified as Stream 2) flows northwards through the facility along the ravine referred to in Section 5. The other stream (Stream 1) is located in another ravine to the west of the facility and also flows northwards. Both of these streams flow towards the Cammock(Camac) River which in turn flows in to the River Liffey. Water quality analysis of both these streams upstream and downstream of the facility was carried out as part of the application. The biological rating (Q-values) for the streams were as follows - Stream 1: 5(upstream) & 4(downstream) and Stream 2: 5(upstream) & 5(downstream). In the case of both streams there were higher concentrations of a number of parameters in the downstream location than the upstream location. In the case of the on site stream (Stream 2) these included *inter alia*, iron, mercury ammonia, chromium(total) and sulphates(total) suggesting an impact on the surface water quality from the facility. All surface water samples had high levels of iron and manganese which were suggested as background. However, the downstream location of Stream 2 had iron and manganese at levels much higher than its upstream location and other sampling locations, with the exception of the small stream associated with the on site spring which also had higher levels.

Along the western side of Stream 2 there is a pipe protruding out of the ground located just downstream of the sampling location SW3 (upstream location). There is a discharge from this point which is coloured in a manner indicative of high iron content and probable reducing conditions in the ground. The stream becomes visibly discoloured at this location (see photographs in Appendix 1) as a result of this discharge and is discoloured for the rest of its length on site. Analysis of the sediment in the vicinity of the discharge point also indicates this with there being high levels of a number of parameters such as iron, lead, zinc, arsenic, barium chromium and nickel along with the presence of carboxylic acids, alcohols and acids. Condition 5.5.4 includes requirements regarding investigations as to the extent of this material and for its subsequent removal off site to an appropriate facility. Condition 6.4 relates to surface water emissions. Firstly it specifies that emissions to surface water from the facility shall only be to the stream running though the facility at emission point(s)

agreed with the Agency. It also sets a limit for suspended solids in such discharges, and specifies that no substance be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish. It also requires the diversion/collection of discharges, which would not meet the limits specified in Schedule C.4 – Surface Water Discharge Limits.

The applicant proposes to install surface water swales around each operational phase of the facility. Drainage from the majority of Phase 2 and some of Phase 3 are to drain to the stream flowing through the facility (stream 2) in accordance with Condition 6.4. Drainage from the remainder of the phases shall drain via swales to soakpits. Condition 3.14.1(i) requires that all surface water discharging from the facility to the stream shall only do so after passing through a grit chamber/settlement pond. Condition 3.14.1(iii) requires that drainage from the Construction and Demolition Waste Recovery Area, the Waste Inspection Area and the Waste Quarantine Area be directed through an oil interceptor and to a holding tank/pond or equivalent prior to discharge to stream.

Condition 8.1 sets out the monitoring requirements for surface water and this includes Condition 8.8.1 which requires a surface water monitoring programme for the surface water discharging from the facility and the flow in the stream.

(7) Emissions to Sewer

There are no emissions to sewer from this facility and none were proposed.

(8) Other Significant Environmental Impacts of the Development

None.

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

No relevant air quality plans exist for the Dublin Region. The requirements of the Waste Management Plan for the Dublin region and the Water Quality Management Plan have been considered in the evaluation of this licence application.

(10) Other Issues

The applicant stated that the proposed development is exempt from requiring planning under planning legislation as it is the continuation of an existing activity which has been operational for more than five years. Recent contact with the planning section of South Dublin County Council indicated no recent planning application regarding this facility has been made. I would recommend that a copy of any Proposed Decision issued in relation to this facility be forwarded to the Planning Section of South Dublin County Council along with a location map and that it be marked for the attention of the Planning Officer of the Corbally area.

A 220kW ESB power line runs through the site, with two pylons located within the site. A 110kW ESB power line runs through the site virtually perpendicular to the other line. The applicant received correspondence from the ESB when compiling the EIS for the application in which a 60m corridor was said to be required to be maintained along these lines.

Another potential environmental impact from development in the region of the facility is a visual one. The facility is located south of the Blessington Road sloping upwards away from the road (varying in height from approx. 150mOD to 205mOD) on land that slopes to a maximum height of 395mOD. Much of the area commands a spectacular view in which much of the Dublin area can be observed. The proposed development if carried out in a phased manner should have little impact on the surrounding landscape. The provision of a Construction and Demolition Waste Recovery Area includes the requirement under Condition 3.16(b) to provide appropriate visual screening which is envisaged to be through the use of earth embankments, which are to be in the order of 5-6m in height. The existing hedgerows at the facility are to be maintained and when restored the facility should be used for agricultural purposes in keeping with much of the surrounding lands.

(11) Submissions/Complaints

Nine submissions were received in relation to this application. An overview of all submissions received in relation to the waste licence application is provided in Appendix 2.

(12) Reasons for the Recommendation

Analysis of groundwater and surface water carried out as part of the application indicates that the existing site is having an impact on the waters. High levels of iron and manganese are often attributable to background conditions, and may be in this case. However, the increase in their levels at the downstream sampling location of Stream 2 and also the existence of a discharge point and rusty coloured sediment nearby as shown in accompanying photographs indicate reducing conditions which enable the solution of iron and manganese from the underlying deposits. It is likely that this is arising from the leachate produced from the wastes previously deposited at the facility. The presence of phenol as referred to in Section (5) is also a cause for concern and may also be as a result of waste deposition at the facility previously.

The existing covering on the facility does little if nothing to minimise rainfall infiltration and the consequent leachate generation. The recommended Proposed Decision relates to the disposal of inert wastes only. It sets out requirements for the lining of all areas to be used for landfilling of such wastes in accordance with the requirements of the Landfill Directive. An exception to this is whereby an area is to be capped directly in accordance with Condition 4.3. The placement of the lining system or final cap over areas with existing waste deposits will minimise rainfall infiltration in to the existing waste deposits and consequently minimise leachate generation from these deposits. The facility shall be developed to minimise rainfall infiltration and shall provide for the

diversion of such rainfall to a surface water management system for discharge to stream or soakpits.

It is also recommended that the facility be licensed to operate a Construction and Demolition Waste Recovery Area, in which the licensee will be required to achieve recovery targets in line with the government's policy document "Changing Our Ways". Mobile crushing and screening plant will be employed intermittently to enable the recovery of concrete or brick material. Recovered topsoil and subsoil may also be employed in the final capping at the facility. Once the disposal activities are terminated at the facility the recovery activities will also cease to facilitate the use of the facility for agricultural purposes.

Signed:	Dated:
Donal Howley	

Inspector, Environmental Management & Planning

APPENDIX 1 SITE LOCATION, LAYOUT PLANS & PHOTOGRAPHS

APPENDIX 2 OVERVIEW OF SUBMISSIONS/COMPLAINTS

Ground 1: Water Pollution

A number of submissions refer to the potential for pollution to both surface water and groundwater arising from waste activities at this facility.

Response

The recommended Proposed Decision sets Emission Limit Values (ELVs) for emissions to surface water and also requires tight controls on the waste types to be accepted at the facility which will provide for the protection of the water courses from the facility. Due to the inert nature of the waste to be allowed at the facility contaminated leachate should not occur. However, surface water controls are required by Condition 3.14. This includes the requirement that all surface water collected at the facility for discharge to stream shall only do so after passing through a grit chamber/settlement pond. This condition also requires that drainage from the Construction and Demolition Waste Recovery Area, the Waste Inspection Area and the Waste Quarantine Area be directed through an oil interceptor and to a holding tank/pond prior to discharge to stream. All surface water management infrastructure is identified as Specified Engineering Works and as such are subject to the requirements of Condition 3.2.

Condition 8.8.1 requires a monitoring programme for surface water discharging from the facility and the flow in the stream running through the facility, such that the requirements of Schedule D.1 and D.5 for surface water monitoring are fulfilled.

Condition 3.12 requires that the facility be lined in accordance with the requirements of the landfill directive for a landfill for inert waste. Condition 8.7.1 sets out requirements for the monitoring of private wells within 250m of the facility. Condition 8.7.2 requires an investigation into the sources of barium and phenol identified in groundwater analyses at levels above the MAC for drinking water and any actions required to be taken in light of the findings of the investigation.

Ground 2: Dirt(road)

A number of submissions refer to the potential for dirt on the roads as a result of the facility operations. Reference was made to there being a dirt nuisance occurring when the facility was previously in operation.

Response

Condition 7.4 of the recommended Proposed Decision requires that all waste vehicles use the wheelwash at the facility (Condition 3.9) prior to exiting the facility. Condition 7.3.2 of the recommended Proposed Decision requires that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.

Ground 3: Noise

A number of submissions refer to the potential for noise pollution as a result of waste activities at the facility and also the increase in traffic to and from the facility.

Response

Potential noise sources relating to the proposed facility activities are from site machinery such as a bulldozer, an excavator, the crushing and screening plant and the waste vehicles bringing waste to and from the facility. Schedule C: Emission Limits has set ELVs for noise emissions from the facility and are such that they will not have a significant impact on the surrounding area. The application indicates in the order of 50 dwellings located within 500m of the facility, 20 of which are within 250m. The ELVs are set at a number of locations along the boundary near to the nearest noise sensitive locations. Condition 3.16.1(b) requires the provision of noise screening of the Construction and Demolition Waste Recovery Area.

Condition 8.1 sets out noise monitoring requirements for the facility including Condition 8.6 which requires additional monitoring locations in the vicinity of the Construction and Demolition Waste Recovery Area.

Ground 4: Dust

A number of submissions refer to the potential for dust emissions from waste activities at the facility and refer to nuisance from the facility when in operation previously.

Response

Schedule C: Emission Limits of the recommended Proposed Decision has set a dust deposition limit for dust emissions from the facility such that they will not have a significant impact on the surrounding areas. Dust control measures are required by Condition 7.3 of the recommended Proposed Decision and include the requirement, in dry weather, to spray site roads and other areas used by vehicles with water. It also requires, as proposed by the applicant, a site speed limit of 15mph and also the use of a sprinkler system for the crushing and screening plant.

Ground 5: Traffic/road network

A number of submissions refer to the existing traffic problems on the main Blessington Road on which the facility entrance is situated. It is contended that this junction is extremely hazardous.

Response

The road network and traffic issues are matters for the planning authority.

Ground 6: ESB lines

A number of the submissions refer to the presence of ESB transmission wires and pylons on the site and refer to potential dangers from this. One submission included a copy of correspondence from the ESB in relation to precautionary measures/directions to be taken at the facility. It is noted also that the ESB corresponded with the applicant as part of the Environmental Impact Assessment.

Response

Condition 3.5.4 of the recommended Proposed Decision requires the licensee to provide and maintain 60m wide corridors underneath and bisected by the ESB power lines which cross the facility. The licensee is also required to consult with the ESB regarding traffic control in the vicinity of the corridors. Condition 3.5.5 also requires the licensee to obtain the agreement of the ESB prior to any excavation within the corridor referred to above. Condition 3.14.1(iv) requires that adequate drainage be provided in the areas of ESB towers 59 and 60 to ensure no standing water collects at the bases of the towers. I would also recommend issuing a copy of any Proposed Decision recommending the grant of licence for this facility to the relevant section of the ESB.

Ground 7: Location (zoning)

A number of the submissions refer to agricultural activity in the area and to the zoning of the area as agricultural.

Response

The current facility does not currently have planning permission, although the applicant considers the proposed development to be exempt under planning legislation. This issue is a matter for the planning authority whereas the recommended Proposed Decision deals with the environmental management and pollution control aspects of the facility in carrying out the licensed activities. The applicant proposes to restore the site for agricultural use.

Ground 8: Types of waste

The submission refers to previously deposited waste at the facility and is concerned at the possibility of toxic wastes being deposited at the facility.

Response

Condition 1.4 of the recommended Proposed Decision controls the types and quantities of wastes that are acceptable at the facility. Only waste that is verified as being inert and not exceeding the limits in Schedule A is acceptable for disposal at the facility. Under Condition 8.7.2 the licensee is required to investigate the potential sources of phenols and barium, which were noted at levels above the MAC for drinking water in BH5 (phenol - downgradient) and BH4 (barium - upgradient) & BH3 (barium - downgradient).

The recommended Proposed Decision is intended to minimise rainfall infiltration and thereby minimise the generation of any further leachate from any previously deposited wastes.

Ground 9: Fit and Proper Person

This submission questioned the competency of the applicant to hold a waste licence and making reference to previous activities on the site by the applicant, questioned the ownership of the site, referred to previous companies traded by the applicant and referred to the applicant having a criminal record for theft.

Response

The licensee would be required to adhere to all of the conditions of the waste licence, should it be granted. The applicant was assessed to be a fit and proper person in accordance with Section 40(4)(d) of the Waste Management Act, 1996. Condition 12.2.2 of the recommended Proposed Decision requires the licensee to make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which the licence would relate if granted.

Ground 10: Landscape

This refers to concerns raised with regard to the landscape and visual impact as a result of the waste activities proposed.

Response

The lands adjacent to the proposed facility are primarily agricultural. The intention of the applicant is to restore the site for agricultural use, with the final shape to be in keeping with the surrounding lands. Condition 4.2 of the recommended Proposed Decision specifies the final profile of the proposed landfill.