

INSPECTORS REPORT
WASTE LICENCE REGISTER NUMBER 48-1

(1) Summary:

Kilmurry South Landfill, a privately owned landfill, has been in operation for some time. At the time of the application (29/5/98), the applicant (Marrakesh Ltd.) estimated that circa 3.2 million tonnes of waste had been deposited at the facility. Currently inert construction and demolition waste is accepted for disposal at this site, though there is evidence that some biodegradable material has been accepted in the past. A small amount of soil and rocks are currently being recovered. Waste is currently being deposited in Phases I and II which both form a contiguous mass. Phase I and II are located in a former sand and gravel quarry according to the application. These phases will be restored over the next few years.

The directors of Marrakesh Ltd. live on the facility, and their residence is proposed as the site office. The Proposed Decision requires the installation of landfill infrastructure currently lacking at this facility.

The landfill is located on the eastern side of the Great Sugarloaf mountain southwest of Kilmacanogue village in County Wicklow in an area designated as an Area of Outstanding Natural Beauty in the Wicklow County Development Plan 1999. Waste deposition will continue to restoration levels specified in the Proposed Decision in Phases I and II. Restoration will then blend the existing landfill area (Phases I and II) with the surrounding landscape. Restoration of these phases should be completed within a few years. The application proposes a greenfield Phase III extension of the current landfill. As this phase would be in operation for an extended period, and as it is my opinion that it would constitute a significant negative impact in an area of special interest, namely the Area of Outstanding Natural Beauty, I recommend refusal for this phase of the development.

Several residences located downgradient of the landfill use private boreholes for their water supply. However, the landfill has not been shown to have a significant effect on groundwater quality.

Name of Applicant	Marrakesh Limited
Facility Name(s)	Kilmurry South Landfill
Facility Address	Kilmurry South, Kilmacanoge, Bray, Co. Wicklow.
Description of Principal Activity	Deposit on land
Quantity of waste (tpa)	100,000
Environmental Impact Statement Required	Yes
Number of Submissions Received	65
INSPECTOR'S RECOMMENDATION	The proposed decision as submitted to the Board be approved.

Notices	Issue Date(s)	Reminder(s)	Response Date(s)
Article 14 (2) (b) (i)	Not Applicable		
Article 14 (2) (b) (ii)	19/6/98, 25/8/98, 25/2/00		22/7/98, 3/9/98, 16/9/98, 20/10/98, 5/11/98, 15/11/98, 24/11/98, 3/3/00
Article 14 (2) (a)	24/11/98, 7/3/00		
Article 16	13/1/99, 4/8/99, 15/11/99, 1/2/00	10/1/00	7/4/99, 30/7/99, 5/8/99, 30/8/99, 15/9/99, 21/1/00 and 9/2/00.

Applicant Address	Registered Office: 90 Upper Georges Street, Dun Laoghaire, Co. Dublin.
Planning Permission Status and Date Granted (if appropriate)	No planning permission. Applicant claims facility in existence prior to 1/10/64 and is therefore exempt from planning permission under S24(1) of the Local Government (Planning and Development) Act, 1963. However, Wicklow Co. Council dispute this and have begun proceedings under S27 of the Local Government (Planning and Development) Act, 1976.
Planning Authority	Wicklow County Council
Is the facility an existing facility	No
Prescribed date for application	1 st May 1997
Date Application received	29 th May 1998
Confidential Information Submitted	Yes
Location of Planning Documents in Application	None. See above.
Location of EIS in Application	Volumes 1 and 2.

SITE VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
11/6/98	To ascertain whether the facility was still in operation.	Brendan Wall, Donal Howley	Waste consisting of soil materials from site excavations/clearances was observed being deposited.
20/7/98	Check site notice.	Eamonn Merriman	Site notice complied with Articles 5 and 7 of the Waste Management (Licensing) Regulations, 1997.
6/3/00	Check site notice.	Eamonn Merriman	Site notice complied with Articles 5 and 7 of the Waste Management (Licensing) Regulations, 1997.

SITE VISITS BY AGENCY INSPECTORS PRIOR TO WASTE LICENCE APPLICATION:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
25/9/97	Assessment of whether the facility carried out any of the activities listed in the Third or Fourth Schedules of the WMA 1996.	Brendan Wall, Donal Howley	Deposit on, in or under land was occurring (Third Schedule of WMA, 1996) - construction and demolition waste principally with some green waste.
20/2/98	Assessment of whether the facility carried out any of the activities listed in the Third or Fourth Schedules of the WMA 1996.	Brendan Wall, Donal Howley	Waste was observed being deposited - soil/clay, mixed construction and demolition waste including concrete, wood, scrap metal, used tyres, plastics.

(2) Class/Classes of Activity

Class Description:

The descriptions provided by the applicant for these activities are set out below:

Third Schedule

Class 1: This is the principal activity. Only waste categorised as being of an inert nature is accepted at the landfill. This includes subsoil, topsoil, brickwork, stone, rock, slate, natural sand, clay, concrete, pottery, solid road planings, solid tarmacadam and solid asphalt. No hazardous or biodegradable waste is accepted.

Class 13: This relates to the storage of soil for capping.

Fourth Schedule

Class 2: This relates to the recovery of topsoil. This material is then used either for capping purposes or supplied to garden centres.

Class 4: This relates to the recovery of subsoil, stone and rocks. This material is then used either for capping purposes or supplied to garden centres.

Class 13: This relates to the storage of material pending recovery. Currently an Extec grading machine is employed to grade materials. Other components of Construction and Demolition waste which are not acceptable for landfilling (for example, wood, plastics) are removed from accepted waste and stored pending dispatch to an appropriate facility.

(3) Facility Location

A location plan showing the outline of the facility to which the application relates is provided in Appendix 1. The plan also shows the layout of the facility.

The Kilmurry South Landfill is located approximately 5Km south of Bray near the village of Kilmacanogue. The facility, comprising of circa 8.9 hectares, is located on the eastern slope of the Great Sugarloaf mountain. It is located within an Area of Outstanding Natural Beauty (Wicklow County Development Plan, 1999). The northern side of the site is bounded by commonage land with residential properties to the north-

east. There is also a small food business and a concrete products manufacturing unit located north-east of the facility. The southern side is bounded by a sand and gravel quarry with access through the facility. This quarry is controlled by Marrakesh Ltd. who has recently sought permission to extend it. The eastern and western sides are bounded by pastoral land interspersed with residential properties. Several of these properties which are located downgradient of the facility are supplied by boreholes. The facility is located directly east of the Great Sugarloaf pNHA (001769). Surface water run-off from the facility disperses to the Kilmurry stream, primarily through groundwater recharge, which in-turn discharges to a pNHA, Kilmacanogue Marsh (000724), before discharging to the Dargle River, a designated salmonid river.

(4) Waste Types and Quantities

Total quantities and types of wastes accepted by the facility are shown below.

YEAR	NON-HAZARDOUS WASTE (tpa) Note 1	HAZARDOUS WASTE (tpa)	TOTAL ANNUAL QUANTITY OF WASTE (tpa)
1996	95,000 to 99,000	0	95,000 to 99,000
1997	95,000 to 99,000	0	95,000 to 99,000

Note 1: Estimated quantities.

The total quantities of waste “already deposited” at the facility and “to be deposited” (as specified in the application) are shown below.

	NON-HAZARDOUS WASTE (tonnes)	HAZARDOUS WASTE (tonnes)	TOTALS (tonnes)
“Already deposited”	3,200,000 (estimate for 1955 to 1997)	0	3,200,000
“To be deposited”	1,200,000 ^{Note 1}	0	1,200,000

Note 1: The facility will be restored to conditioned elevations which are lower than applied for in the application (Condition 8.1), and it is proposed to refuse Phase III of the application. Therefore, it is envisaged that a lower quantity will ultimately be landfilled.

The expected life of the facility and the expected maximum annual tonnage are indicated below.

Expected Life of Facility (years)	closure approximately 2003/4
Maximum Annual Tonnage (tpa)	100,000 tonnes

(5) Facility Design

- **Facility Development**

Waste is currently being deposited in Phases I and II which form a contiguous mass. These phases will continue to receive waste to specified restoration levels (Condition 8.1.(b)) in sequence (Condition 5.11). Condition 8.1.(g) requires the restoration of each Phase within one year of reaching agreed levels. Condition 4.15 requires a fixed benchmark which will facilitate the determination of levels.

- **Infrastructure**

At present there is little infrastructure at this facility. Condition 4.3.1 requires stockproof fencing around the perimeter of the facility, a cattlegrid at the entrance (as the facility is immediately adjacent to an area of unfenced commonage), a security hut and a barrier. Condition 4.10 requires a weighbridge and Condition 4.18.1 requires a wheel cleaner.

Condition 4.7 requires that a facility office be maintained. Condition 4.12.1 requires bunding of the diesel tank used to store fuel for the facility plant. An existing shed adjacent to the site entrance is used as a site workshop.

- **Landfill Gas Management**

This is an inert landfill (Conditions 5.1 and 5.2). Waste acceptance will be controlled through Condition 5.3. Therefore landfill gas management would not normally be required. However, there is evidence that biodegradable waste has been accepted at this facility in the past. Methane has been detected at low levels on two occasions at BH-05, the leachate monitoring borehole located within Phase II. Elevated levels of carbon dioxide were also detected at BH-05 and at monitoring boreholes up and downgradient of the deposited waste. However, no landfill gas was detected within any of the buildings on the facility. Therefore it is proposed to undertake monthly monitoring in a range of monitoring boreholes around the landfilled area, the leachate monitoring borehole in Phase II and within the site office, workshop and toilet/outhouse (Table D.1.1). Condition 7.4 sets trigger levels for landfill gas while Table E.2 sets emission limits for landfill gas within any building on or adjacent to the facility.

- **Liner System**

The existing landfill, comprising Phases I and II, is located in an unlined excavated sand/gravel quarry. This is an inert landfill facility. An analysis of eluate derived from deposited waste in Phase II was deemed inert. As it is not proposed to grant the Phase III extension, no liner has been conditioned.

- **Leachate Management**

As this is an inert landfill, leachate will be derived from rainfall infiltration through the deposited waste. It is apparent that rainfall passes quickly through the deposited waste, and no standing leachate has been observed. Additionally examination of groundwater has revealed no significant impact on groundwater resources. Therefore no specific leachate management is required. However, the existing borehole in Phase II will be retained for monthly leachate level monitoring (Tables D.4.3 and D.4.4) and upgradient/downgradient monitoring of groundwater is required (Tables D.4.2 and D.4.4).

- **Capping System**

No capping system is proposed for this inert landfill. Condition 8.1 requires a soil cover of at least one metre to be applied as a restoration layer coupled with contouring and a planting regime.

(6) Facility Operation/Management

• Waste Acceptance Procedures

Only inert construction and demolition (C&D) waste is acceptable at this facility (Conditions 5.1 and 5.2). Condition 5.3 requires inspection of waste loads accepted at the facility entrance and at the tipping face. A waste quarantine area is to be provided (Condition 4.9). Any waste removed or rejected from the facility is controlled by Conditions 5.3.1 and 5.15. Conditions 3.10 and 3.11 specify the records to be maintained. Condition 5.4 stipulates that a maximum of 100,000 tonnes can be accepted at the facility each year. Condition 5.5 will terminate waste intake once restoration levels are reached.

• Waste Handling

Condition 5.8 specifies waste handling procedures. Additionally, Schedule F, Table F.2, restricts the type of C&D waste that may be landfilled. Condition 5.14.1 seeks a proposal for the recovery of components of C&D waste that are not acceptable for disposal at the facility, for example biodegradable components such as timber and plastics. Condition 5.14.2 provides for the recovery of soils, rocks and stones.

• Nuisance Control

Condition 6.1 says no debris will be deposited on the road network in the vicinity of the facility and provide for the utilisation of a roadsweeper to maintain these roads in a satisfactory manner. Condition 6.6.2 is designed to control mud tracking during wet weather, while Condition 4.18.1 requires the installation of a wheel cleaner.

Due to the inert nature of the waste accepted at this facility, no vermin or odour problems are anticipated. Condition 6.8 requires the licensee to ensure that such problems do not arise.

Litter and visually intrusive derelict plant are controlled by Conditions 6.2 and 6.4.

Condition 3.12 requires a record of any complaints received.

• Hours of Operation

Condition 5.10 sets the hours of operation as follows:

- Monday to Friday: 8.00 am to 6.00 pm.
- Saturday: 8am to 2.00 pm.
- Sundays and bank holidays: closed.

(7) Restoration and Aftercare

Visual integration into the surrounding landscape is incorporated into the restoration plan, including a maximum restoration elevation for the deposited waste 10 metres lower than that applied for by the applicant (Condition 8.1.(b)). The reason for this reduction is to control visual intrusion in an Area of Outstanding Natural Beauty (Wicklow County Development Plan, 1999). An additional benefit will be to counteract sunshine loss to residences located to the immediate east of the facility.

The restoration plan (Condition 8.1) will involve the regrading of the existing Phases I and II to a more natural landform, and their subsequent planting with grass and furze

bushes. Condition 4.4.2 requires the creation and maintenance of hedgerows at the facility boundaries where none currently exist.

It is envisaged that stability, groundwater, ecological and landfill gas monitoring may continue in the aftercare period. Condition 8.2 requires an aftercare plan to be submitted for approval by the Agency.

(8) Emissions to Air

- **Dust:** The sources of dust at this facility arise from the handling of waste (disposal/spreading and the recovery area), fugitive dust from site roads (including traffic to the adjacent quarry which passes through the facility) and possible wind scatter from landfilled/restored areas. A four month dust deposition monitoring survey indicated that the mean dust deposition values around the facility boundary were low. However, due to the nature of the facility routine dust deposition monitoring will be undertaken (Schedule D.2) and Table E.3 sets dust deposition limit values. In order to reduce fugitive dust emissions, Condition 6.6.1 requires water spraying of roads as appropriate during dry weather, while Condition 6.6.2 requires the use of appropriate materials, for example gravel, on unpaved roads so as to minimise mud tracking. Condition 6.1 also requires the immediate road network to be maintained in a debris-free state. Wind direction monitoring will be undertaken (Condition 9.15). This monitoring will aid the interpretation of dust deposition results.
- **Odour:** The nature of the waste being handled at this site is such that no odour problems are anticipated. No odours were detected during any site visits by the Agency staff. Condition 6.8 requires that odours do not give rise to nuisance.
- **Landfill Gas:** Refer to Section 5 of this report.
- **Aerosols:** No activity at this facility should give rise to the generation of aerosols.

(9) Emissions to Groundwater

Regional geology is described as Cambrian Period bedrock known as the Bray Head Formation. Overburden consists of between 3 to 8 metres of sandy cobble/clay. The bedrock aquifer is described in Map 7(n) of the County Wicklow Groundwater Resource Protection maps as moderately productive only in local zones where groundwater is highly vulnerable to pollution. There are several private potable supply wells, which straddle both the overburden and bedrock strata, located downgradient of the facility.

Based on three surveys, groundwater is moving in an east-southeast direction. Some private wells, which were sampled as part of the application, demonstrate the influence of the landfill. However the standards set in the European Communities (Quality of Water Intended for Human Consumption) Regulations (1988) have not been breached except for bacterial counts on two sampling occasions. There is no evidence to suggest that these exceedances are due to the presence of the landfill. They may be due to agriculture or the presence of septic tanks. Indeed, the upgradient bedrock aquifer monitoring borehole (BH6) also demonstrated a total coliform exceedance. Based on surface observations, the gravel aquifer more or less terminates at an ephemeral

(temporary) stream adjacent to the northern boundary of the facility, and therefore properties further north should not be affected by the landfill. Sampling was attempted in the private well of the MacDonnells to confirm this, but access was denied (see submission received 6/8/1998).

However, there is evidence that biodegradable wastes types have been accepted at this facility in the past (pre-application Agency visits; Council visit as related in a submission received from them on 23/12/98). Analysis of eluate generated from material obtained during the construction of BH5, a borehole drilled into the deposited waste mass, indicated the presence of organic matter. Additionally, landfill gas monitoring has indicated that some biodegradable waste has been deposited in the past. Various measures are conditioned to monitor and protect groundwater. Conditions 5.1 and 5.2 restricts waste acceptance to inert materials. Furthermore, Schedule F, Table F.2 restricts the wastes that can be landfilled at the facility. Condition 9.13.2 requires new boreholes in order to provide a more comprehensive monitoring network, particularly of the bedrock aquifer. Schedule D.4 sets forth groundwater monitoring requirements. This monitoring will provide for the protection of downgradient private wells. Condition 10.5 provides for actions in the event that groundwater monitoring indicates that the facility is having a significant adverse impact on adjacent private wells. Significant spillages are to be treated as an emergency (Condition 10.3), while Condition 4.12.1 requires bunding of the currently unbunded diesel tank. Condition 4.5.1 requires the upgrading if so required to standard of the two septic tanks on the facility, and Condition 4.13 requires their maintenance.

(10) Noise Emissions

Two noise surveys were undertaken during the application process. Both surveys indicated that the facility causes an increase in noise levels above the background levels at nearby residences. However, all the adjacent properties are also being affected by traffic noises on the N11 National Primary Route. Therefore it is not a quiet rural setting. However, the Agency's daytime noise emission limit of 55 dB(A) was not exceeded at three adjacent private residences (noise sensitive receptors).

Schedule D.3 requires an annual noise survey at the three noise sensitive receptors, while Table E.1 sets noise emission limits at these locations.

(11) Emissions to Sewer

There will be no emissions to sewer from this facility. There are two septic tanks located on the facility. One unit serves the residence of Mr. Tony Lawlor which also doubles as the facility office. The other unit serves facility staff and customers. Condition 4.5 requires that these septic tank systems are assessed against the "Recommendations for Septic Tanks for Single Houses", commonly known as SR6, (NSAI, 1991) and brought to that standard as required.

(12) Emissions to Surface Waters

The surface water network consists of an ephemeral stream that runs along the northern boundary of the facility and a normally dry drainage ditch located at the eastern boundary of the landfill which discharges to the ephemeral stream. This stream

flows east before dispersing downstream of the facility into various locations. However, these watercourses only support a flow following heavy rainfall events. Thus, most surface water run-off from the facility would appear to infiltrate directly to groundwater as opposed to reaching these watercourses, no doubt due to the permeable overburden. However, groundwater influenced by the facility most likely contributes to the Kilmurry Stream which is located east of the facility. This stream proceeds to flow through Kilmacanogue Marsh (proposed National Heritage Area number 724) before discharging to the Dargle River (designated salmonid river). However, it is not considered that this facility will have a negative impact on the proposed National Heritage Area or the Dargle River. Duchas, the Heritage Service, hold a similar view with respect to Kilmacanogue Marsh (in a letter submitted as part of the EIS).

Condition 4.17 requires a proposal for the ongoing management of surface water run-off from the facility. Surface water sampling is specified in Tables D.4.1 and D.4.4 at locations on the ephemeral stream at locations upstream and downstream of the facility (Condition 9.14.1 seeks a revised location for downstream monitoring location as it is considered that a location further downstream would be more appropriate). However, monitoring of this surface water will only be possible following a rainfall event. Monitoring of groundwater will however be appropriate to the protection of Kilmurry Stream. Condition 5.6 forbids waste deposition within five metres of the ephemeral stream.

(13) Other Significant Environmental Impacts of the Development

- **Landscape:** Section 5 (1) of the WMA 1996 describes environmental pollution as follows: “environmental pollution means, in relation to waste, the holding, transport, recovery or disposal of waste in a manner which would, to a significant extent, endanger human health or harm the environment, and in particular
 - (a) Create a risk to waters, the atmosphere, land soil, plants or animals,
 - (b) Create a nuisance through noise, odours or litter, or
 - (c) **Adversely affect the countryside or places of special interest.**

Section 40(4)(b) provides, inter alia, that a waste licence shall not be granted unless the activity concerned, carried out in accordance with such conditions as may be attached to the licence, will not cause environmental pollution.

I consider that this landfill adversely affects to a significant extent a place of special interest in that it is located within an Area of Outstanding Natural Beauty (Wicklow County Development Plan 1999). Wicklow County Council, in a submission relating to this application, stated “given the location of this development in an Area of Outstanding Natural Beauty, visible from the N11 main tourist route in the County and located at the foot of the Sugarloaf this development clearly forms an obtrusive feature in the landscape”. In the EIS which accompanies the application, it is stated in section 2.8(ii) that “the site in its current state may be considered to infringe upon the view of this area”. There are also Prospects of Special Amenity Value and Views of Special Amenity Value that are affected by this development. Phases I/II are an existing and active area for waste disposal. Phase III cannot form a continuous mass with Phases I/II due to the presence of an intervening 220 kV electricity transmission line and

associated pylons (if Phase III was to proceed, in effect a large trench would remain after restoration between Phases I/II and III: this would be alien to the landscape). Due to the location of Phase III on elevated ground, it will not be possible to effectively screen it from residential properties to the west and north or from certain elevated properties to the east or from hill walkers on the Great and Little Sugarloaf mountains. It is difficult to predict the lifespan of Phase III. This is primarily due to the nature of waste being deposited. The applicant has applied for a licence for intake up to 100,000 tonnes per annum C&D waste. Government policy requires recovery of 50% of C&D waste by September 2003, progressing to 85% recovery by 2013. The effect of the implementation of this policy is likely to extend the lifespan of Phase III at least twofold over the application closure date of 2013. I consider the mitigation proposals contained in the application for Phase III would not be adequate to screen it effectively in this place of special interest. Therefore it is proposed to only allow landfilling to continue in the existing Phases I and II in order to effect their controlled integration into the surrounding landscape (Condition 8.1), and to prohibit the development of the proposed extension of the landfill into the greenfield Phase III area (Condition 5.11). The use of C&D wastes to effect restoration of Phases I and II may be considered a recovery process.

- **Access to adjacent quarry:** The applicant also operates a sand and gravel quarry immediately south of the landfill facility. Access to this is through the landfill. Tracking of mud onto public roads by quarry traffic is controlled by Conditions 6.1, 6.6.2 and 4.18.1.
- An EIS, submitted as part of the application, was considered to be compliant with the regulations.

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

Wicklow County Council's draft Waste Management Plan (1999) was considered. The Council stated in a submission that this facility cannot be considered for integration into the County Waste Management Plan as the council believes it does not have planning permission, and it never had a waste permit. However, section 4.3.5 Recycling of Construction and Demolition (C/D) Waste does provide for recycling of C&D waste at this facility.

There are no air quality or water quality management plans pertinent to this facility.

(15) Submissions/Complaints

Appendix 2 contains a list of all submissions received relating to the application. The dates received and the details of the individual, department, group or organisation making the submission are provided.

An overview of the submissions received in relation to the waste licence application is provided. This includes a summary of all issues raised in the submissions and shows how these issues are dealt with in the proposed decision.

15.1 Summary of Submissions/Complaints

65 submissions were received in relation to this application

Ground 1. *Risk to groundwater and borehole potable water supplies in the area, one of which supplies a food processing business. Presence of hydrocarbons in the groundwater. No landfill liner is proposed contrary to European Union law.*

Refer to Section 9, Emissions to Groundwater. A specific submission was the presence of petroleum hydrocarbons and volatile organic compounds in all six groundwater samples taken on the 1/9/1999. A range of polycyclic hydrocarbons (PAH) was detected, including at the upgradient monitoring borehole. However, the total PAH concentrations were all below the Maximum Allowable Concentrations of 0.2 ug/l as set forth in the European Communities (Quality of Water Intended for Human Consumption) Regulations 1988 for the six PAH compounds specified in that Regulation. Other than PAH's which can be considered volatile organic compounds, no other volatile organic compounds were detected. Refer to Section 5, Liner System, of this report.

Ground 2. *This facility has been a site for uncontrolled dumping. There has been historically poor regulation of this facility by the local authority, Wicklow County Council. The facility never had a Waste Permit (European Union (Waste) Regulations, 1979) as required. It would be irresponsible to grant a license as any conditions are unlikely to be observed. This latter opinion is premised on the applicant's track history with Wicklow County Council. It would be wrong to reward the operation of an activity which has been operating illegally for many years with a waste licence.*

There is evidence that wastes other than inert wastes have been deposited at the facility historically. However, Conditions 5.1 and 5.2 restrict the waste types acceptable at this facility, while Table F.2 Waste Acceptance specifies that only inert components of Construction and Demolition waste can be landfilled. Condition 5.3 sets forth waste acceptance procedures in order to demonstrate compliance with the above requirements of the proposed decision. No Waste Permit was issued for this facility by the competent authority, Wicklow County Council. The Council informed the Agency that no waste permit application was received by them in connection with this facility. In a submission made by the council, they included a letter sent to a director of Marrakesh Ltd. on 21/9/1995 informing him that a waste permit was required and that no further waste disposal operations should occur. However, the applicant does not have a conviction under the Waste Management Act (1996), and therefore, in that respect, must be regarded, as provided in the Act, as being a fit and proper person to hold a waste licence.

Ground 3. *The facility does not have planning permission and has been operating without planning permission for several years. There is no planning permission for the paved access road to the facility. The Wicklow Planning Alliance in their submission of 20/4/2000 state that the Agency would be acting ultra vires if a waste licence was granted without planning permission.*

The applicant claims the facility was in existence prior to 1/10/64 and is therefore exempt from planning permission under S24(1) of the Local Government (Planning and Development) Act, 1963. However, Wicklow Co. Council dispute this and have begun proceedings under S27 of the Local Government (Planning and Development) Act, 1976. These proceedings had not been resolved by 16/5/2000. Several other submitters also contend that the existing landfill is subject to the planning act on the grounds that waste intake began after 1/10/64. Under the Waste Management (Licensing) (Amendment) Regulations, 1998, there is no linkage between facility status and planning permission. However, Condition 1.4 states that nothing in this licence (sic) shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations. The paved access road referred to above is outside the facility boundary and is subject to regulation by the planning authority.

Ground 4. *As the facility does not have either planning permission or a waste permit, it cannot be incorporated into the Wicklow County Council Waste Management Plan.*

Wicklow County Council wrote to the applicant on the 15/7/1999 seeking information concerning the operation of his facility in connection with the preparation of the Waste Management Plan. The facility is listed in the draft County Wicklow Waste Management Plan (September 1999). Refer to Section 14 of this report.

Ground 5. *Access road (Quill Road) unsuitable for large number of lorries accessing the landfill. Dust and noise nuisances associated with this traffic. This traffic also poses a danger to pedestrian users of this road.*

Road access to the facility is via the Quill Road from the N11 national primary route and thereafter by a road constructed by the applicant. The Quill Road is very narrow, and for most of its length can be considered a one-track road (a vehicle has to pull to one side in order to allow another one to pass). However, traffic access to the facility is a matter for regulation by the Wicklow County Council.

Ground 6. *Visual intrusion in area of scenic beauty. Area designated as an Area of Outstanding Natural Beauty in successive County Wicklow Development Plans (1989 and 1999). Also this general area, but especially the Glen of the Downs (located southeast of the facility), is described by many submitters as the entrance to the garden of Wicklow or Ireland, and the area should be kept as scenic as possible, especially in light of the damage which will ensue from the upgrading of the adjacent N11 road. Planning permission for a bungalow in the vicinity has been refused on the grounds of views of special amenity. Due to preparatory works on the N11 road including the removal of trees, the facility is visible to users of that road. The visual impact assessment submitted as part of the application did not take account of these changes. The facility will have a negative impact on local trade, particularly tourism. One submitter claims there will be a negative impact on his yoghurt business as a green image is vital to him and an adjacent landfill destroys such an image.*

Refer to Section 13, Landscape, of this report. The visual impact assessment submitted as part of the application was undertaken prior to the commencement of

road improvements to the N11 road. This study did demonstrate that there are open views of the facility from the N11 road nonetheless. The existing facility (Phases I and II) is located in a very scenic location and is visible to nearby houses, users of the N11 road and local amenities such as the Great and Little Sugarloaf Mountains. The appended drawing, number 103 titled “Restoration Plan” shows the broad outline for the restoration of the landfill. However, visual integration will be enhanced by restricting the final elevations at 10 metres lower than shown in this drawing and having their “summits” finished in a more rounded fashion (Conditions 8.1.b). Condition 8.1.a restricts the slopes of the deposited waste to 35 degrees or less to the horizontal. Thus Condition 8.1 will provide for the visual integration of the existing landfill area into the landscape. Condition 5.11 prohibits the extension to the existing landfill area, namely Phase III, on the grounds that it will have a significant impact in an area of special interest, namely a designated Area of Outstanding Natural Beauty.

Ground 7. *Odour nuisance arising from the facility.*

As waste intake is restricted by Conditions 5.1 and 5.2 to inert waste types, no odour problems are envisaged. Condition 6.8 requires the applicant to prevent odour formation. Low levels of methane have been detected within a leachate monitoring borehole located in Phase II. However no odours have been detected by Agency staff during site visits.

Ground 8. *Dust nuisance arising from the facility.*

Refer to Section 8, Dust, of this report.

Ground 9. *Noise nuisance arising from the facility.*

Refer to Section 10, Noise Emissions, of this report.

Ground 10. *Danger from Landfill Gases arising from the facility.*

Refer to Section 5, Landfill Gas Management, of this report.

Ground 11. *Litter nuisance arising from the facility.*

The type of waste to be accepted at this facility will have very little litter generating capacity. Condition 6.2 requires the daily removal of any litter that does arise on the facility and its environs, while Condition 6.5 requires that vehicles transporting waste to/from the facility are covered.

Ground 12. *Vermin nuisance arising from the facility.*

The type of waste to be accepted at this facility should not attract vermin. Condition 6.8 controls vermin nuisance.

Ground 13. *Health risk to humans. One submitter claimed that his health in general, but especially his asthmatic condition, had deteriorated as a result of this facility.*

No evidence was provided with this submission. In a paper titled “the Health Effects of Controlled Landfill Sites – An Overview” by L. Heasman (Proceedings Sardinia 99, Seventh International Waste Management and Landfill Symposium), it was concluded that the extensive evidence available does not support any causal link between health effects studied and residence near landfill sites. A four month dust deposition monitoring survey, undertaken as part of this application, found that mean dust deposition rates were low and well within the daily dust deposition limit value of 350 mg/m² recommended in T.A. Luft. A PM₁₀ (particulate matter less than 10 microns in diameter) survey indicated a value of 35.9 ug/m³ near the

tipping face. This is below the United Kingdom Department of the Environment recommended limit of 50 ug/m³. Refer to Section 8, Dust, of this report for conditions relating to the proposed monitoring and control of dust.

Ground 14. *The facility poses a risk to the pNHA of Kilmacanogue Marsh. There are two pNHA's located within the facility.*

The facility is not located within any pNHA's. The Great Sugarloaf pNHA (code 001769) is located west and upgradient of the facility. No emissions from the facility other than dust deposition are likely to impact this pNHA. Dust deposition limits have been set for the facility boundary (Schedule G.3). The other pNHA that could be affected by the facility is the Kilmacanogue Marsh (code 000724). This pNHA is located north of the facility on the Kilmurry Stream. Refer to Section 12, Emissions to Surface Waters, of this report. A submission by Duchas, the body responsible for pNHA's, said they have no objection to the granting of a waste licence for this facility.

Ground 15. *The facility will cause ecological damage. No specific grounds were submitted.*

Phases I/II of this facility are currently in operation. An ecological survey, undertaken as part of the application found recolonisation of deposited waste with ruderal floral species, and concluded that the site was of limited wildlife interest. The restoration plan (Condition 8.1), which requires seeding with grass and pocket planting with gorse, will result in ecological improvement to this degraded environment. Condition 4.4 requires that the existing hedgerow network be maintained and the planting of new hedgerows of a similar species composition where gaps exist at the facility boundary. Condition 9.11 requires a further ecological survey a suitable period after the completion of the restoration of each Phase. Condition 5.11 prohibits the development of Phase III.

Ground 16. *The facility is located in an area of high archaeological importance. One submitter claims there is an historical site immediately east of the facility, whilst another submitter contends there is one located on the facility.*

A licenced archaeologist undertook an archaeological survey as part of the application. He concluded that no archaeological or cultural sites were defined within the general environs of the facility.

Ground 17. *Risk of landslide of deposited waste onto properties and an historical site situated below (east of) the landfill site.*

The site was assessed by E. Doyle and Associates (consulting engineers) for the risk of subsidence, and by O'Connor Melia Ltd. (Engineering and Project Management Services) for slope stability. It was concluded that such an occurrence was unlikely. In line with the recommendations of these reports, Conditions 5.9.(c) and (d) require compaction of the deposited waste, and Condition 8.1 sets maximum slopes for deposited waste. Condition 9.9 requires an annual report on the stability of the facility.

Ground 18. *Landfill located in a residential area. Property values and amenity are/could be negatively impacted by the landfill. Suggested that compensation be sought to offset this impact. The security of local householders will be at risk. The landfill will attract human scavengers of waste.*

This is a matter for the planning authorities. The role of the Agency is to consider the environmental aspects of the facility. Conditions included in the proposed decision will provide open accessibility to all relevant matters concerning the ongoing assessment, recording and reporting of matters affecting the environment. No scavengers have been observed during any Agency visits. It is not clear how the security of nearby residences might be affected by this facility. The inert types of wastes acceptable at this facility (Conditions 5.1 and 5.2) should not attract any human scavengers.

Ground 19. *Surface water runoff from landfill site causes flooding downstream. Interference with the natural route of surface water run-off from the Sugarloaf mountain due to the facility has resulted in damage to a private lane. There will be an impact on tributaries of the River Dargle, a designated salmonid river.*

It is apparent that surface water flows in the ephemeral stream which runs alongside the northern boundary of the facility only occur following heavy rainfall events. Most rainfall would appear to infiltrate directly to groundwater. Groundwater and surface waters from the area of the facility disperse to the Kilmurry Stream which in turn discharges to the River Dargle, a designated salmonid river. Results of groundwater and surface water sampling submitted as part of the application indicate that the quality standards of the European Communities (Quality of Salmonid Waters) Regulations 1988 will not be breached in the Dargle on account of this facility. Schedule D.4 requires upgradient/downgradient monitoring of groundwaters and upstream/downstream monitoring of surface waters in the adjacent ephemeral stream. Condition 9.5 allows the Agency to alter the monitoring regime as appropriate. There is no evidence to suggest that the landfill is resulting in downstream flooding. The landfill is located on the eastern slopes of the Great Sugarloaf mountain. Heavy rainfall events can possibly lead to temporary backflooding in restricted surface water channels on such large, steeply sloped catchments as the Great Sugarloaf mountain. Condition 4.17.1 requires a proposal to address surface water management at the facility.

Ground 20. *Loss of winter sunshine to a property located east of the landfill due to height of the deposited waste.*

One submitter claims that the deposited waste has resulted in the loss of 20 minutes of winter sunshine at his residence. His residence is located to the northeast of the existing Phases I and II of the facility. Condition 8.1 restricts the height of the restored landfill phases to an elevation 10 metres less than applied for in the application.

Ground 21. *Inaccurate information was supplied in the application. The number of lorries accessing the site per hour is far greater than that specified in the application. Some residences inaccurately portrayed in the application as having a mains water supply whereas they actually have borehole water supplies. Waste disposal is occurring outside the hours and days specified in the application.*

The quantity of waste intake to the facility is restricted to 100,000 tonnes per annum by Condition 5.4. Several residences were portrayed in the original application as being connected to a mains water supply whereas they actually have individual private wells as their potable water supply. These errors were corrected

on foot of Article 14.2.b.ii inquiries. Condition 5.10 restricts the hours of operation of the facility.

Ground 22. *The Environmental Impact Statement submitted as part of the application was inadequate on various grounds.*

- *The licence application is deficient as the profile of the material already landfilled cannot be assessed.* Leachate and upgradient/downgradient groundwater were analysed. The results of these analyses allow interpretation of the deposited waste profile. Condition 9 provides for the ongoing monitoring of leachate and groundwater.
- *The EIS does not have at its disposal full information about future materials to be landfilled.* Section 1.3.2, Site Operations, of the EIS deals with the nature of the waste intake to this Facility. Conditions 5.1 and 5.2 restrict the nature of acceptable waste.
- *The EIS does not take into account recent landscape changes since the EIS was submitted.* The EIS was submitted to the Agency on the 3/9/1998. The recent changes referred to are assumed to be works associated with the upgrading of the nearby N11 road which have occurred since February 2000.
- *No leachate testing was provided.* A borehole (BH-05) was drilled into Phase II of the landfill. Leachate sampling was attempted on several occasions, but no standing leachate was present. Subsequently leachate was generated by a laboratory process (DIN 38414) and analysed.
- *Landfill gas was not monitored within the landfilled area.* BH-05 was sampled for landfill gas. Table D.1 requires landfill monthly gas monitoring at the facility and Condition 7.4.1 sets trigger levels for landfill gas.
- *Monitoring infrastructure for landfill gas and leachate inadequate as the Agency's Landfill Monitoring Manual (1995) stipulates at least two monitoring points per hectare.* Although there is evidence that some biodegradable waste has been received in the past at this facility, Conditions 5.1 and 5.2 restrict waste intake to inert materials. As no standing leachate has been observed during several sampling efforts, it is considered that groundwater sampling is more appropriate to this facility. However, Bh-05 will continue to be monitored for leachate level and landfill gas (Schedule D). The monitoring requirements conditioned comply with Annex III of the Landfill Directive (1999/31/EC).
- *Slope stability not addressed.* Refer to Ground 17 above.
- *No baseline surface water monitoring was undertaken.* Upstream and downstream monitoring was undertaken in the ephemeral stream which runs along the northern boundary of this facility as part of the application. Table D.4.1 requires this monitoring to continue.
- *Groundwater was sampled within 5 metres of the surface. Some deep monitoring of groundwater should have occurred.* Various deep boreholes were sampled for groundwater during the application: namely Mr. Lawlor's private well on the northern flank of landfill (97.5m deep), upgradient BH6 (10.9m deep), Mr. Murphy's downgradient well (approximately 69m deep),

downgradient BH2 (8.1m deep) and BH3 (8.7m deep). Additionally the downgradient private wells of the Jones and Power households which were sampled are likely to be deep wells. The facility is located on sloping ground. The groundwater monitoring programme undertaken for the application was considered sufficient to make a proposed decision. Condition 9.13.2.(b) requires the installation of two new downgradient bedrock boreholes between the landfill and downgradient residences in order to improve the monitoring regime.

- *No details of routes of lorries, frequency of deliveries or tonnage's of same were submitted for adequate assessment.* The EIS detailed the average number of lorries per hour arriving at the site the site.

Ground 23. *The proposed management controls for the facility are inadequate.*

Condition 2 provides for the management of the facility.

Ground 24. *There was inadequate monitoring undertaken in the application process.*

There is also no monitoring provided for regarding gas, dust or water emissions.

Adequate groundwater, surface water, noise, dust and landfill gas monitoring was undertaken as part of the application process. Condition 9 sets forth future monitoring requirements.

Ground 25. *The statutory Site Notice did not comply with the Waste Management (Licensing) Regulations, 1997 in that the Site Notice was not visible from a public road.*

There are two access roads from the county Quill Road to the facility that converge at the facility entrance. One of these was apparently constructed by Mr. Tony Lawlor, a director of Marrakesh Ltd., without planning permission according to various submissions. This is the road used by vehicles accessing the facility. The other road is used for access to houses east and west of the facility. Whether or not this latter road is a public road, the site notice would comply with Article 7(2) of the Waste Management (Licensing) Regulations (1998) in any event.

Ground 26. *Local residents are afraid to make a submission in relation to this application.*

Submissions were received from many local residents. Appendix 2 lists the submissions received within the specified time for receipt of submissions in respect of this application.

Ground 27. *The waste intake to this facility has not been adequately qualified. One submitter believes that this facility will accept household waste.*

Conditions 5.1 and 5.2 restrict waste intake to this facility. Only non-hazardous solid C&D waste is acceptable.

Ground 28. *The facility has inadequate infrastructure. There is neither a weighbridge nor a wheelwash nor any fuel bunding.*

The current landfill has very little infrastructure. Condition 4.12 requires bunding of the diesel tank located at the facility. Any other tank and drum storage areas that may arise would also require bunding under this condition. Condition 4.10 requires a weighbridge while Condition 4.18.1 requires a wheel cleaner.

Ground 29. *There is no indication in the application of any proposal to reduce, recycle or reuse Construction and Demolition waste which is contrary to*

sustainable development and to the policy of the Department of the Environment and Local Government. Waste dumps are an out-of-date method of dealing with refuse. Funding of better research and implementation of better waste disposal methods are required.

The application states that some soils, rocks and stones are recovered at the facility. Condition 5.14.2 allows this process to continue. Condition 5.14.1 requires a proposal for recovery of components of Construction and Demolition waste that are unacceptable for disposal at the landfill. The policy statement by the Department of the Environment and Local Government, Waste Management – Changing Our Ways (1998) requires a 50% recycling rate by September 2003 increasing to 85% recycling by September 2013. This facility will cease waste intake upon the achievement of restoration levels set forth in Condition 8.1.(b). This should result, based on current waste intake rates, in closure by 2003/4. The use of inert materials to achieve the restoration of the existing landfill area can be considered a reuse of waste materials. The proposed decision deals with the specific application before the Agency.

Ground 30. *The facility would be detrimental to the local environment. One submitter made this point without providing any specific grounds. Submissions in which no grounds were given for objecting to a licence for this facility.*

The conditions attached to this licence will provide protection to the local environment.

Ground 31. *No objection to the granting of a licence. One submitter qualified this by stating that he had no objection provided only a limited amount of hard-core material was landfilled.*

Condition 5.11 restricts waste deposition to the existing Phases I and II only. Conditions 5.1 and 5.2 restrict the waste intake to inert Construction and Demolition waste.

Ground 32. *The Agency inspector processing this application stated that the granting of a licence was a foregone conclusion.*

This statement was never made.

Signed _____

Dated:

Name Eamonn Merriman

APPENDIX 1

LOCATION PLAN

1. Drawing C6.1 and C6.2, revision C, entitled Groundwater Sampling Points.
2. D1.0, revision A, entitled "Site Infrastructure/General Site Layout".
3. Drawing 103, Restoration Plan.
4. Drawing G1.3, Phases Map.

APPENDIX 2

LIST OF PERSONS MAKING SUBMISSIONS

- 1.