

Environmental Impact Statement - Non Technical Summary

1 The Applicant

The applicant is Advanced Environmental Solutions (Ireland) Ltd (AES). The company was established in 1996 as Waste Recycling Ireland and commenced trading as Advanced Environmental Solutions (Ireland) Ltd in July 2001, through the acquisition of Midland Refuse Service (Laois) Ltd., O'Briens Waste Recycling, and EC Waste Disposal. Other acquisitions included O'Doherty Waste Disposal, Higgins Waste, AP Waste Disposal and Maxwell Waste.

In March 2002, AES acquired Landfeeds Environmental Ltd. and in July 2002, the Environmental Protection Agency (EPA) licensed Midland Waste Company Ltd. in Navan together with the now licensed Alina/Rent-a-Bin facility in Tullamore. AES also acquired Feehan Environmental in August 2002, and Pembroke Waste Disposal in Kilkenny during September 2002.

The policy of the company is to manage waste in a manner which maximises the reuse and recycling of materials while minimizing the volume sent to landfill; this is achieved by utilising the most modern technologies, ensuring regulatory compliance and working in partnership with customers and organisations at international, regional and local levels.

2 General Description of the Site

The application is for a proposed composting facility using the Bedminster technology. The proposed facility is located at Killowen, Portlaw, County Waterford. It is approximately 2km from the main Waterford /Clonmel Road and approximately 19kms from Waterford City. The proposed facility is adjacent to the R680 road 7km southeast of Carrick on Suir and 3km north of Portlaw. The location of the site is shown in Figure A.1. The site application boundary is shown in Figure A.2. The facility was previously operated as a tannery under integrated pollution control (IPC) licence Reg No. 238. The proposed facility is approximately 3.2 hectares in size.

The compost facility will be designed to receive 40,000 tonnes per annum of commercial, industrial and household waste containing biodegradable waste and sludges. The facility will be able to accept the waste in a mixed state or source segregated. The Bedminster technology is 'in vessel' and all waste activities will be undertaken indoors. The existing wastewater treatment plant on site will be used to treat wastewaters generated on site (e.g. domestic wastewater from staff facilities and any leachate from the composting process) and effluents tankered to the site from other industries. The throughput to the wastewater treatment plant will be approximately 60,000 tonnes per annum.

3 Alternatives

AES is primarily concerned with the management of waste. Ireland as a nation relies heavily on landfill and there is a need to recover and make better use of wastes generated. Composting will play a key role in this matter and AES identified the need for such a facility. Legislation is becoming more stringent in relation to the form of materials that can be spread onto land and AES also identified the need for a facility to further treat

effluents, which previously were spread directly to land. AES had the choice to do nothing or set up the proposed facility, consisting of a compost plant and effluent treatment plant. Considering national policy and current issues with waste, AES decided to follow the latter option.

In terms of location AES considered various locations. The selected site became available; it already had an effluent treatment plant and factory building, which could be modified for use as a composting plant. In addition, the South East Regional Waste Management Plan includes provision for a compost facility. The site is central to the counties in the South East Region, it is in close proximity to Waterford City and Carrick on Suir.

4 Difficulties Encountered in compiling the required information

No difficulties were encountered in compiling the information. The vast majority of information about the site was available from the environmental impact statement carried out as part of the application for the Michell Ireland Ltd industrial facility and from the subsequent enforcement of integrated pollution control licence (IPC) Register No. 238, which was granted by the Environmental Protection Agency (EPA).

5 Classes of activity

In accordance with the Third and Fourth Schedules of the Waste Management Acts, 1996 to 2003, it is proposed to carry out the following classes of activity at the facility:

Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2003

Class 6.	<p>Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 7 to 10 of this Schedule.</p> <p>This activity relates to the production of composted material not meeting specified compost quality requirements.</p>
Class 11.	<p>Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.</p> <p>This activity relates to the blending or mixing of wastes, which cannot be recycled or recovered or do not meet compost standards, prior to disposal off site.</p>
Class 13.	<p>Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.</p> <p>This activity relates to the storage of waste, which cannot be recycled or recovered or do not meet compost standards, prior to disposal off site.</p>

Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2003

Class 2. This is the Principal Activity	<p>Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes):</p> <p>This activity relates to the recycling of organic substances including composting and biological treatment of waste at the facility.</p>
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Class 3.	Recycling or reclamation of metals and metal compounds: This activity relates to the recycling or reclamation of metals and metal compounds prior to further recovery off-site.
Class 4.	Recycling or reclamation of other inorganic materials: This activity relates to the recycling or reclamation of inorganic materials prior to further recovery off-site.
Class 13.	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced: This activity relates to the storage of waste prior to further recovery off-site.

6 Quantity & Nature of Wastes to be Recovered or Disposed of at the Facility

It is proposed to accept 100,000 tonnes per annum at the facility. The main aim is to compost waste and treat wastewaters.

Proposed quantity of wastes to be accepted at the compost facility:

Waste Type	European Waste Catalogue Codes	Tonnes/Annum
Household	20 01 08 biodegradable kitchen and canteen waste 20 02 01 biodegradable waste 20 03 01 mixed municipal waste	23,000 -Household biodegradable waste which can be collected source segregated or mixed (sorted at the waste facility)
Commercial Waste	As above 20 03 03 street cleaning residues 19 12 12 other wastes (including mixtures of materials) from mechanical treatment of waste other than those mentioned in 19 12 11	8,000-Commercial biodegradable waste which can be collected source segregated or mixed (sorted at the waste facility)
Industrial Non-Hazardous Solids	Similar to Household and Commercial Waste above	2,000 – industrial biodegradable waste which can be collected source segregated or mixed (sorted at the waste facility)
Sewage Sludges	19 08 05 sludges from treatment of urban waste water 20 03 04 septic tank sludges	4,500
Industrial Non-Hazardous Sludges	19 08 14 sludges from other treatment of industrial waste water other than those mentioned in 19 08 13 19 02 06 sludges from the physico / chemical treatment other than those mentioned in 19 02 05	2,500
Total		40,000

The proposed quantity of wastewater to be accepted at the wastewater treatment plant:

Waste Type	European Waste Catalogue Codes	Tonnes/Annum
Industrial waste not elsewhere specified (Trade and sewage effluent)	02 02 01 sludges from washing and cleaning 02 02 99 waste not otherwise specified 02 05 99 wastes not otherwise specified 02 07 01 wastes from washing, cleaning and mechanical reduction of raw materials Other non-hazardous effluents suitable for on site treatment	60,000
Total		60,000

7 Raw and Ancillary Materials, Substances, Preparations, Fuels and Energy, which will be utilised in or produced by the activity

The facility will use materials, substances, fuels and energy during construction and during operation. During construction materials will be used to build all the components of the compost facility e.g. tipping area, Eweson digester, aeration hall, and biofilter. The facility will use diesel fuel, electricity, and water during construction and operation and small amounts of vermin controls will be used during operation. Annual audits will be carried out to ensure that energy is being used efficiently.

8 Plant, Methods, Processes and Operating Procedures for the activity

8.1 Plant

The facility will comprise some or all of the following plant:

- Bedminster technology for composting waste – the key elements of the process/plant are:
 1. Tipping area – enclosed area for receiving the waste. Associated infrastructure to sort mixed waste will also be located in this area;
 2. Eweson digesters (revolving compartmentalised aerobic drums that accelerate the natural process of biological decomposition). The digesters vary in size depending on waste quantity to be processed. The digester at this facility will be approximately 60m long and 4.0m diameter and will be capable of processing 40,000 tonnes per annum.
 3. Primary screen – to screen compost as it is discharged from the digesters.
 4. Aeration building – temperature and humidity controlled area to achieve compost maturity.
 5. Final screen – to screen compost to market quality
 6. Biofilters – air from within the building is passed to atmosphere through biofilters to remove odour.
- Plant for recovery/storage of non-compostable wastes – this may include:
 1. Picking lines
 2. Magnet to remove metals

3. Eddy current (aluminium)
 4. Air compressor with blower to remove light wastes
- Wastewater treatment plant. This is operated on the sequencing batch reactor (SBR) process. Components include balancing tank, tanks where SBR process is carried out and sludge holding tank.

8.2 Methods, Processes & Operating Procedures

8.2.1 Compost Facility

Waste is first sorted and then the organic fraction processed. The core of the process is the 'Eweson Digester', a revolving compartmentalised aerobic drum that accelerates the natural process of biological decomposition.

Wastes and biosolids are fed into the digester in optimum balance. Temperature and moisture are controlled to encourage a dense and varied microbial population. Within 3 days, the organic fraction is transformed into a new product. The product is screened to remove the large residues, which go for recycling or disposal at an appropriate facility.

For the next three weeks, the product undergoes controlled secondary composting and curing before final screening. The whole process is monitored to ensure total compliance with regulatory authorities requirements.

The process occurs within a totally enclosed and controlled environment. All air from the buildings and process passes through biofilters – a carefully managed natural medium, which can consist of layers of gravel, compost and wood chips. Microorganisms in the biofilter naturally consume odorous compounds eliminating odours.

Since the entire processing operation is enclosed within buildings (as opposed to open air windrows composting), there is no contamination of surface or groundwater's.

Standard operating procedures for the acceptance, handling and processing of waste will be developed prior to commencement of operations at the facility.

8.2.2 Wastewater Treatment Plant

The wastewater treatment plant is operated on the SBR process.

Standard operating procedures for the acceptance, handling and processing of wastewaters shall be retained at the facility.

9 Waste Acceptance Hours and Hours of Operation

Waste will be accepted at the Facility Monday to Friday inclusive between the hours of 08.00 to 19.00 and on Saturdays 08.00 to 17.30. Waste handling (sorting, mixing etc) will be from the hours of 07.00 to 20.00 hours Monday to Friday inclusive and 08.00 to

18.00 on Saturdays. The compost plant and wastewater treatment plant will be operated continuously.

10 Existing Environment, emissions, mitigation measures & likely significant impacts

10.1 Existing Environment

Data was collated to identify and assess the main effects, which the proposed development is likely to have on the environment. The vast majority of information about the site was available from the environmental impact statement carried out as part of the application for the Michell Ireland Ltd industrial facility and from the subsequent enforcement of integrated pollution control licence (IPC) Register No. 238, which was granted by the EPA. Details considered included that for:

- Air (dust, odours, bio-aerosols, noise, and litter) – typical rural environment;
- Climate e.g. wind direction and rainfall;
- Cultural and archaeological heritage - no recorded archaeological features;
- Flora and fauna - two species of plants (Greater Pond Sedge and Opposite-leaved Pondweed), which are rare in Ireland were found;
- Human beings – no house within 250m of the proposed facility;
- Traffic – number of traffic movements;
- Soils, geology and groundwater - the site is underlain by some 12.5m to 35m of overburden overlying weathered limestone bedrock, which is a major aquifer. Michell Ireland abstracted its water needs from onsite groundwater wells. These wells are still available as a water supply;
- Landscape – screening and tree planting required for the construction of the Michell Ireland facility have been implemented and are now matured;
- Surface water – discharge consents and emission limit values are given in the IPC licence granted to Michell Ireland;
- Materials assets - there are private residences, an orchard and farms in the vicinity of the proposed facility. The site is accessed by the R680, which is a regional road. Services at the site include water (groundwater supply), electricity, telephone and gas. Existing buildings at the site include a factory, which was previously used by Michell Ireland and this building will be modified and used for the proposed composting of waste. A wastewater treatment plant is located adjacent to the Michell Ireland factory;
- Interrelationships – the data for the above has been used to assess interrelationships.

Further details on these aspects can be found in Section 3 of the EIS.

10.2 Potential Emissions & Likely Impacts

Potential emissions and likely impacts include:

- Air (dust, odour, bio aerosols, noise and litter) – dust, odour, bio-aerosol, noises and litter could be generated from waste operations at the facility. All waste operations are to be carried on indoors. The buildings at the facility will operate under negative air pressure. All process air will be extracted and piped through biofilters – a carefully managed natural medium consisting of layers of gravel, compost and wood chips. Microorganisms in the biofilter naturally consume odorous compounds

eliminating odours. With these measures it is unlikely that air emissions will give rise to a significant impact.

- Climate - The nearest resident is over 250m from the facility. This together with proper facility management, and the fact that waste activities will be carried on indoors should ensure climate interaction does not give rise to a significant impact.
- Cultural and archaeological heritage - no recorded archaeological features;
- Flora and fauna - the factory and paved area where the proposed facility will be located already exist. Michell Ireland Ltd operated a tannery at the facility up to 2004. This included discharge consents under the IPC licence for treated effluent and storm water to the River Suir. Uncontaminated surface water will continue to be collected in the yard and released to the River Suir. This is not likely to have an impact, as existing emission limit values will be used to control the discharge
- Human beings – emissions from the facility could impact on humans. However since there is no house within 250m of the proposed facility and all waste activities are to be carried on indoors under negative air pressure there should not be any significant impact.
- Traffic – the number of heavy vehicles to the proposed facility should be less than that to the previous industry located at the site. As such there should not be any additional impact.
- Soils, geology and groundwater - it is not anticipated that the proposed development will have any discharges to groundwater. Domestic and industrial wastewaters will be treated in the on site wastewater treatment plant and treated effluent discharged to the River Suir as per the discharge consent granted to Michell Ireland under IPC licence Reg. No 238.
- Landscape – the proposed development intends using the existing factory, with some modifications. These are extending the factory to incorporate an enclosed reception/tipping area and the installation of an Eweson digester. These additional elements will not have a significant impact on the landscape.
- Surface water – the potential emissions are treated effluent and uncontaminated surface water to the River Suir. The surface water will be tested in the sump before any discharge takes place. The discharges will conform to emission limit values set out in IPC licence Reg. No 238 granted to Michell Ireland for previous activities at the site.
- Materials assets - potential emissions from the facility are emissions to air (dust, noise and odours), emissions to ground or water body (treated effluent and uncontaminated surface water) and waste (litter). These emissions have been dealt with in earlier sections.
- Interrelationships – A number of interrelationships can exist e.g. air emissions and climate. These have been considered in the foregoing and it has been concluded that they should not give rise to a significant impact.

10.3 Mitigation Measures

Good management and operational practices will be implemented at the facility. Measures that should ensure the activity does not give rise to significant impacts include:

- All waste operations will be carried on indoors;
- The buildings at the facility will operate under negative air pressure;

- All process air will be extracted and piped through biofilters;
- Treated effluent and uncontaminated surface water run-off will be required to meet existing emission limit values set at the site;
- Fuels will be stored in appropriate bunded areas;
- Staff with appropriate skills to operate and manage the facility will be employed.

10.4 Likely Significant Impacts

With the implementation of the measures identified above it is unlikely that activities at the facility will give rise to a significant impact.

11 Proposed Environmental Monitoring

The following monitoring is proposed taking into consideration site specific details and waste licences granted for similar type waste facilities. Locations of monitoring points and frequency of monitoring are provided. Monitoring locations are shown on Figure A.3.

Media	Location (Grid Reference)	Monitoring Frequency
Dust Deposition	D1 (S4715 1773)	Three times a year ^{Note 1}
	D2 (S4711 1791)	Three times a year ^{Note 1}
Noise	N1 (S4715 1773)	Annually
	N2 (S4711 1791)	Annually
Biofilter	Biofilter (S4724 1787)	See Section 4.2.1 of EIS
Surface Water Discharge	EW2 (S4751 1836)	See Section 4.2.2 of EIS
Meteorological Monitoring	Onsite (S4715 1773)	See Section 4.2.3 of EIS
Treated Effluent	EW1 (S4751 1836)	See Sections 4.2.2 & 4.4 of EIS
Compost quality monitoring	Final Compost	Monthly - See Section 4.3 of EIS

Note 1 Twice during the period May to September.

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