

This memo was approved to go to the Board  
by Brian Meaney, Senior Inspector.

Signed Gráinne Ogleby Date: 27/08/2015



## OFFICE OF CLIMATE, LICENSING, RESOURCES & RESEARCH

### INSPECTOR'S REPORT ON A LICENCE APPLICATION

TO:	DIRECTORS	
FROM:	Caroline Murphy	- Licensing Unit
DATE:	27 <sup>th</sup> August 2015	
RE:	Application for a waste licence from <b>Bio Agrigas Limited</b> , for a facility at Newdown, The Downs, Mullingar, County Westmeath. Licence application register number <b>W0285-01</b> .	

#### 1 Application Details

Licence application received:	30 July 2012.
EIA Required:	Yes – see sections 4 and 10 of this report.
Classes of Activity ( <b>P</b> = principal activity):	4 <sup>th</sup> Schedule: R3 ( <b>P</b> ), R11 and R13.
Category of activity under IPPC Directive:	None.
Category of activity under Industrial Emissions Directive:	None.
Third party submissions:	3.

#### 2 Applicant and facility

Applicant:	Bio Agrigas Ltd has been registered as a company since the 15 <sup>th</sup> March 2011 (Company Registration Office Number 496273). The Operations Director, Mr Paul Flynn, has 25 years' experience operating a transport and agribusiness. This agri-business, Thomas Flynn & Sons Limited, is located adjacent to the south boundary of the facility.
Type of facility:	Anaerobic digestion facility.
Existing or new	New development. No previous planning applications have been made in relation to this

development	<p>site.</p> <p>As part of this new development it is proposed to use anaerobic digestion technology to treat non-hazardous biodegradable feedstock to generate electrical power &amp; heat and to produce a soil conditioner.</p>	
Quantity of waste managed per annum and main classes of waste:	<b>Non-hazardous waste/feedstock type</b>	<b>Proposed max. (tonnes per annum)</b>
	Slurry (pig and dairy cow)	5,000
	Silage (maize and grass)	5,000
	Fodder beet	2,000
	Belly grass	5,000
	Bakery waste (bread, dough, fat)	3,000
	Total	20,000
Description of site:	<p>The facility is on 2.3Ha and is surrounded by agricultural lands on each boundary except for the southern boundary which is adjacent to Thomas Flynn &amp; Sons Ltd.</p> <p>The N4 national primary road is located &lt;0.5km south of the facility as shown in Figure 4 below.</p> <p>There are approximately 42 residences and one commercial premises (Thomas Flynn &amp; Sons Ltd) within 1km of the proposed facility.</p>	
Number of employees:	The proposed activities will require 10 full-time employees.	

### 3 Operational Description

Refer to Appendix 1 for the site layout plan.

The proposed waste treatment system is a wet anaerobic digestion (AD) system utilising two digestors operating under thermophilic conditions at 50-55°C.

Two streams of feedstock, identified below, are proposed for digestion. Both feedstock streams are mixed separately but are combined prior to entering the digestors as described below:

- (i) Belly grass and bakery waste will be received into the waste reception building. Solid waste will be unloaded into a 185m<sup>3</sup> storage tank and liquid waste into a separate tank. Post receipt the waste will be routed through a mixing tank, hydrolysis tanks (initial biodegradation) and pre-AD storage tanks prior to reaching the inlets of both digestors.

- **Condition 3.10.1** of the Recommended Decision (RD) requires buildings which store putrescible waste to be maintained at negative air pressure.

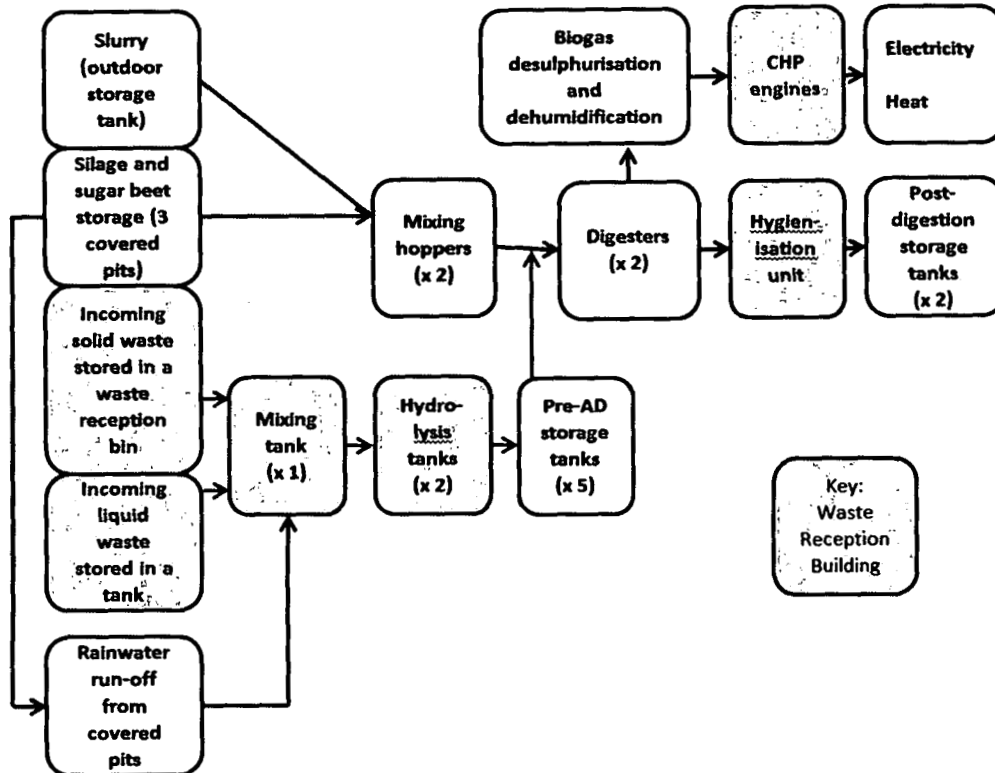
Odorous air extracted from the reception building is proposed to be treated by a biofilter.

- (ii) Slurry from an outdoor storage tank and silage & fodder beet stored outdoors in three covered storage pits are directed to two outdoor mixing hoppers.

Once mixed this feedstock is fed forward to both digestors where it is mixed with the existing contents.

- **Condition 3.9.6** of the RD requires slurry to be stored in an enclosed tank.
- **Condition 8.4** requires materials to be loaded and unloaded in designated areas, protected from spillage and leachate run-off.
- **Condition 8.14** requires waste, other feedstock and digestate storage and holding areas to be inside buildings or vessels protected against spillage, leachate run-off and odour emission.
- **Condition 3.9.1 (iii)** requires agricultural feedstock storage areas, namely the silage and sugar beet storage pits, to meet the requirements of the Department of Agriculture, Food and the Marine's current farm building and structures specifications.

Figure 1: Process flow diagram.



Rain water run-off from the outdoor storage pits will be collected and stored in a tank. This rain water will be routed to the mixing tank in the waste reception building as required.

- **Condition 3.11** requires storm water management infrastructure to prevent the discharge of contaminated water into surface water drains.

Once digestion is complete the digestate is routed to the hygienisation unit where it is heated to 70°C for an hour in order to meet the requirements of the Department of Agriculture, Food and the Marine (DAFM). The digestate is then stored in two post

digestion storage tanks until transfer off-site. These tanks have the capacity to provide for a storage period of 18 weeks as required by Schedule 3 of the *European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014* (S.I. No. 31/2014). **Condition 1.7** requires the applicant to obtain appropriate approvals from the DAFM.

Gas generated during digestion is stored under the digesters' gas-tight flexible membranes. On exiting the digesters the gas is desulphurised by an activated carbon filter and dehumidified by a condensate separator and compressor. The purified gas is then routed to two gas utilisation engines in the Combined Heat and Power (CHP) plant for the production of electricity for the national grid and electricity and heat for use on-site. **Schedule C.2** requires the continuous monitoring of biogas pressure in the digesters.

## **4 Planning Permission, EIS and EIA Requirements**

### **4.1 EIA Screening**

In accordance with Section 40(2A) of the Waste Management Act 1996, as amended, the Agency must ensure that before a licence or revised licence is granted, that the application is made subject to an environmental impact assessment (EIA), where the activity meets the criteria outlined in Section 40(2A)(b) and 40(2A)(c).

The Planner's Report completed by Westmeath County Council on the 21<sup>st</sup> February 2012 confirmed that the planning application was accompanied by an Environmental Impact Statement (EIS) as required by the Planning and Development Regulations 2001, as amended, as the proposed activity is within the scope of Part 2, Schedule 5 of the Regulations. The Planner's Report included an assessment of the EIS.

In accordance with the EIA Screening Determination, the Agency has determined that the activities are likely to have a significant effect on the environment, and accordingly is carrying out an assessment for the purposes of EIA. An EIS was submitted with the licence application and was considered by the Agency for the purposes of EIA.

### **4.2 Planning Status**

Westmeath County Council required an Environmental Impact Statement in support of planning application file reference number 11/5055. The applicant has submitted the EIS required by Westmeath County Council as part of this licence application.

Westmeath County Council granted permission for the activity (planning permission file number 11/5055) on 26<sup>th</sup> March 2012. The decision of Westmeath County Council to grant planning permission was not appealed to An Bord Pleanála. Details of this planning application and permission have been provided in the application form.

Having specific regard to EIA, this inspector's report is intended to identify, describe and assess for the Agency the direct and indirect effects of the proposed activity on the environment, as respects the matters that come within the functions of the Agency, including any interaction between those effects and the related development forming part of the wider project, and to propose conclusions to the Agency in relation to such effects.

The EIS submitted, the licence application, the submissions and observations received from third parties, the assessment carried out by the planning authority, consultations with the planning authority, the relevant planning decisions and any

additional information submitted by the applicant have been examined and assessed and are considered below for that purpose.

#### 4.3 Content of the EIS and the licence application

I have considered and examined the content of the licence application, the EIS and other relevant material submitted with it.

It was considered that the EIS and the licence application did not adequately address the following areas and this information was requested under Regulation 14(2)(b)(ii) and Regulation 16(i) of the Waste Management (Licensing) Regulations 2004:

1. Site boundary.
2. Storm water emission.
3. Local surface water features.
4. Groundwater quality.
5. Air dispersion modelling.
6. Storage capacity and estimated cost of content removal.
7. Technical ability.
8. Financial standing.
9. Screening for appropriate assessment.
10. Assessment of the interaction of environmental impacts.
11. Confirmation the EIS submitted with the application was the same EIS submitted to the Planning Authority.
12. Confirmation that no changes have been proposed since the grant of planning permission.

On receipt of further information under Regulation 14(2)(b) and Regulation 16(i) of the Waste Management (Licensing) Regulations 2004, as amended, all of the documentation received was examined and I consider that the information as submitted contains a satisfactory description of the project, the alternatives studied by the applicant, the aspects of the environment likely to be significantly affected by the activity, the likely effects of the activity on the environment, the forecasting methods used, the prevention and mitigation measures envisaged, the lack of difficulties and deficiencies encountered and a non-technical summary.

I consider that the EIS, when considered in conjunction with the additional material submitted with the application, also complies with the requirements of the *Waste Management (Licensing) Regulations 2004*.

I have considered and examined the documents furnished by Westmeath County Council in relation to the impacts assessed by it, in particular the planner's report and the decision dated 26th March 2012 (file number 11/5055).

In section 10 of this report I have addressed the issues that interact with the matters that were considered by the above authority and which relate to the activity.

Having considered the application and EIS, the submissions by members of the public, the submissions of state and public authorities, and the matters resulting from the planning authority decision, I consider that the likely significant effects of the activity on the environment are as set out in Section 10 below.

#### 4.4 Consultation with Competent Authorities

Consultation was carried out between Westmeath County Council and the Agency as follows:

*Table 1: Correspondence with the planning authority*

Notice	Description
<p>Notice under Article 18(1) and 18(3) of the Waste Management (Licensing) Regulations 2004, as amended.</p> <p>Issued: 31 July 2012</p>	<p>Notice to the Environment and Planning Departments of Westmeath County Council that an EIS and a waste licence application have been received and inviting submissions on same.</p>
<p>Notice under Article 18(3) of the Waste Management (Licensing) Regulations 2004, as amended.</p> <p>Issued: 29 August 2013</p>	<p>Notice to the Environment and Planning Departments that additional information relevant to the EIS has been received and inviting submissions on same.</p>
<p>Notice under Directive 2011/92/EU.</p> <p>Issued: 20 November 2013</p>	<p>Notice to the Planning Department that an EIS and a waste licence application have been received and inviting observations on same.</p>
<p>Response to notice made under Directive 2011/92/EU.</p> <p>Received: 22 January 2014</p>	<p>Response from Planning Authority with a copy of the grant of permission dated 26<sup>th</sup> March 2012, the associated Planner's Report dated 21<sup>st</sup> February 2012, a copy of the Environmental Impact Assessment and confirmation that the decision to grant planning permission was not appealed to An Bord Pleanála.</p>

Westmeath County Council did not provide any additional observations to the Agency on the licence application and EIS.

## **5 Submissions**

Three submissions were received in relation to this application.

### **5.1 Submissions from the Department of Agriculture, Food and the Marine (received 23 September 2013 and the 23 March 2015):**

The Department highlighted that in addition to the waste licence issued by the Agency, the proposed operations at the facility shall be regulated, as appropriate, by the Animal By-Products Regulation (Regulation (EC) No. 1069/2009), the Regulations and guidelines pursuant to the Nitrates Directive 91/676/EEC, the Water Framework Directive 2000/60/EC and the Groundwater Directive 2006/118/EC, as implemented by the DAFM.

In their later submission, the Department confirmed that they had no submissions or observations to make with regard to the Agency's determination that an Appropriate Assessment is not required.

Comment:

No response required.

5.2 Submission from the Health Service Executive (HSE) (received 30 September 2013):

The HSE is concerned that the application hasn't sufficiently considered mitigation measures for dealing with a failure in the integrity of on-site tanks. The HSE feels that a description of the measures that will be put in place to minimise the effects on soils, geology and hydrogeology in the event of a serious failure of these facilities should be included in the application.

Comment:

- **Condition 3.17** requires:
  - tanks to be rendered impervious to the materials they store;
  - tanks to be bunded;
  - bunds to be designed having regard to the Agency's guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004);
  - all drainage from bunded areas to be diverted for collection and safe disposal.
- **Condition 3.21** requires tanks to be fitted with high level liquid alarms;
- **Condition 6.10** requires tanks to be integrity tested prior to use and once every three years thereafter;
- **Condition 9.1** requires an accident prevention procedure to be established;
- **Condition 9.2** requires an emergency response procedure to be put in place prior to the commencement of the activity;
- **Condition 9.4.2** requires all significant spillages to be treated as an emergency situation and immediately cleaned up and dealt with so as to alleviate their effects.

## 6 Emissions

Refer to Appendix 1 for an overview of the location of emission and monitoring points.

### 6.1 Air

Point-source emissions to atmosphere will arise at the facility. There are four emission points proposed, as follows:

- A2-1 & A2-2: gas utilisation engines;
- A2-3: odour control unit (biofilter); and
- A2-4: CHP plant biogas flare.

**Condition 3.10** requires the installation of an odour management system to treat air extracted from the waste reception building. The proposed odour management system consists of a biofilter. **Condition 6.15.2** requires the applicant to maintain

and implement a programme to demonstrate negative pressure and building envelope integrity.

*Odour dispersion model*

The impact of emissions from the odour control unit's biofilter (A2-3) were modelled for odour impact. An emission concentration of 1,000  $Ou_E/m^3$  was chosen as the dispersion model input value. This emission concentration is within the range <500 – 6,000  $Ou_E/m^3$  which is specified in section 5.2 of the BREF Note *Waste Treatment Industries* (2006) for treated exhaust gas. The *Integrated Pollution Prevention and Control (IPPC) Draft Horizontal Guidance for Odour: Part 1 – Regulation and Planning*<sup>1</sup> sets 1.5  $Ou_E/m^3$  (98<sup>th</sup> percentile) as an indicative criterion for odour offensiveness from high risk activities such as activities involving putrescible waste. The air dispersion model confirmed that all residential locations in the vicinity of the facility will perceive an odour concentration<sup>2</sup> of less than 1.5  $Ou_E/m^3$ . The modelled ground level odour concentrations ranged from 0.036  $Ou_E/m^3$  to a maximum value of 0.529  $Ou_E/m^3$  at receptors located 776m (R19) and 124m (R42) from the site boundary respectively. **Schedule B.1** recommends an odour emission limit value of 1,000  $Ou_E/m^3$  from the biofilter.

*Air dispersion model*

The discussion below relates to the modelled emissions from the biogas utilisation engines (A2-1 and A2-2). The operation of the biogas flare (A2-4) will be on an intermittent basis when the engines are not operational. As shown in Table 2, the maximum ground level concentration values modelled are less than the relevant standard for each parameter.

*Table 2: Air dispersion modelling.*

Parameter	Averaging period	Process contribution to Predicted Ground Level Conc. ( $\mu g/m^3$ )	Baseline Conc. Value ( $\mu g/m^3$ )	Baseline + process contribution ( $\mu g/m^3$ )	Limit as per S.I. 180 of 2011 ( $\mu g/m^3$ )
Nitrogen oxides (as NO <sub>2</sub> )	1 hour max. 99.79 <sup>th</sup> %tile	64.40	33.80	98.2	200
	Max. annual average	18.20	16.90	35.1	40
Carbon monoxide	8-hour max.	401	1,040	1,441	10,000
Sulphur dioxide	1 hour max. 99.73 <sup>th</sup> %tile	54.60	8.0	62.6	350
	24 hour max. 99.18 <sup>th</sup>	35.13	8.0	43.1	125

<sup>1</sup> Environment Agency (UK).

<sup>2</sup> At the 98<sup>th</sup> percentile of hourly averages for the worst case meteorological year (Clones 2004).



	%tile				
	Max. annual average	7.83	4.0	11.8	20
Total Non-Methane VOC as Benzene	-	2.61	1.40	4.0	5.0

The air dispersion model provided by the applicant didn't take into consideration the air quality standard for the protection of vegetation from oxides of nitrogen specified in Schedule 13 of the Air Quality Standards Regulations 2011. The quality standard sets a limit of 30µg/m<sup>3</sup> as an annual average for oxides of nitrogen as a critical level for the protection of vegetation. It is clear from the table above that an annual average of 30µg/m<sup>3</sup> is exceeded (35.1µg/m<sup>3</sup>) when a model input emission factor of 500 mg/Nm<sup>3</sup> is inputted into the air dispersion model. As a linear relationship exists between the model input emission factor and the predicted ground level concentration, it can be calculated that a model input emission factor of 400mg/Nm<sup>3</sup> nitrogen oxides (as NO<sub>2</sub>) would yield a maximum ground level concentration (including baseline) of 28µg/m<sup>3</sup>. **Schedule B.1** of the RD consequently recommends an emission limit value of 400 mg/m<sup>3</sup> oxides of nitrogen (NO<sub>x</sub> as NO<sub>2</sub>).

The applicant confirmed that the biogas is passed through a carbon filter and desulphurised prior to entering the CHP engines thus reducing the potential for sulphur emissions from the biogas engines.

To limit the air emissions from point sources **Schedule B.1 Emissions to Air** of the RD includes limit values for emissions from all scheduled emission points. The emission limit values are based on what was modelled by the applicant or as explained above. **Schedule C.1.2 Monitoring of Emissions to Air** of the RD stipulates the monitoring requirements for these emission points.

### 6.2 Emissions to Sewer

There are no emissions to sewer from this facility.

### 6.3 Emissions to Surface Waters

There are no process emissions to surface water from this facility.

### 6.4 Storm Water Run-off

Storm water from building and tank roofs will be used in the production process (see Section 3). Rain water from non-process yard areas will be discharged via emission point SW1 to a land drain east of the facility. The land drain connects to the Riverstown River approximately 2km southeast of the facility.

The *Eastern River Basin District Programme of Measures 2009 - 2015* notes that the Riverstown River<sup>1</sup> currently holds a moderate status (Q3-4) and is at risk of not achieving good status. The overall objective for this river is to achieve good status by 2015.

<sup>1</sup> River name: EA\_Boyne159Dale\_RiverstownTRIB\_DerreenavaghStream.

River Waterbody Code: IE\_EA\_07\_1019.

**Condition 3.19** requires storm water, other than that from roofs, to pass through a silt trap and oil separator prior to discharge.

**Condition 5.8** sets trigger levels on the rain water discharges to the land drain. Trigger levels are based on environmental quality standards for surface waters and will ensure that the discharge will not cause environmental pollution.

**6.5 Emissions to ground/groundwater:**

There are no process emissions to groundwater from this facility.

A waste water treatment system and percolation area will be installed for the treatment of sanitary effluent. **Condition 3.25** requires the waste water treatment and percolation area to satisfy the criteria set out in the *Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (p.e < 10)*, EPA, 2010.

**6.6 Noise:**

A noise impact assessment predicted that operational noise levels at the facility measured at four off-site noise sensitive locations would be less than 45dB L<sub>Aeq, 30 min.</sub> The assessment indicated that these noise levels in combination with existing ambient noise levels at two noise sensitive residential locations 360m and 370m away may exceed 55dB L<sub>Aeq, 30 min.</sub> due to noise coming from traffic on the N4 national road.

**Schedule B.4 Noise Emissions** sets emission limit values for day, evening and night time noise levels at the facility. **Schedule C.6 Noise Monitoring** of the RD stipulates the monitoring requirements for noise sensitive locations.

**7 Use of Resources**

The potable water requirements for the facility will be supplied via a 100mm water main.

In order to minimise the use of mains water the applicant proposes to collect and use rainwater at the facility as described in Table 3 below.

*Table 3: Rainwater collection points*

Rainwater Source	Use
Runoff from silage/beet storage pits (X3).	Supply water for production process.
Runoff from tank tops and the roof of the reception building	
Runoff from roof of the administration building	Supply non-potable water to the administration building and truck wash area.

The applicant has predicted that the proposed rainwater harvesting system will provide enough water for the entire production process.

Two CHP engines will be utilised in the process. One engine will run at 100% charge (560kW) and the other at 65% charge (364kW). The applicant expects to generate 1.0MWe of energy. Electricity and heat generated at the facility will be used in the process to maintain both anaerobic digestors at 54°C and to maintain the temperature of the hygienisation unit. In order to allow the facility to export electricity to the grid a connection will be made to the 20kVa electrical distribution line which crosses the site in a north-south direction.

## **8 Waste Management Plans**

In *A Resource Opportunity – Waste Management Policy in Ireland (DOECLG 2012)* it is recognised that as the separate collection of organic waste increases nationally, there will be a need for adequate national infrastructure and capacity to recycle biodegradable waste.

The *Eastern-Midlands Region Waste Management Plan 2015 – 2021* supports the development of biological treatment capacity in the region, in particular composting and anaerobic digestion, by supporting the development of new facilities.

## **9 Compliance with Directives/Regulations**

The Recommended Decision takes account of the requirements of the following directives and regulations:

### **9.1 Waste Framework Directive [2008/98/EC]**

The RD will be in accordance with the Directive for the following reasons:

- It will allow for more waste to move up the waste hierarchy as it increases the recovery of separately collected waste that might otherwise have been disposed of by landfill.
- The State is obliged to take appropriate measures to establish an integrated network of installations for the recovery of waste collected from private households and from other waste producers. The development of this facility will contribute to this overall national objective.
- It will contribute towards compliance with Article 22 of the Directive, whereby Member States must take measures to ensure the environmentally safe composting and digestion of bio-waste.
- It will contribute towards the general development of a sustainable and self-sufficient approach to the management of waste in accordance with the proximity principle.

### **9.2 Water Framework Directive [2000/60/EC]**

*European Communities Environmental Objectives (Surface Water) Regulations, S.I. No. 272 of 2009*

*European Communities Environmental Objectives (Ground Water) Regulations, S.I. No. 9 of 2010*

A number of measures have been included in the RD to prevent any significant impact on water quality, as described above in sections 6.4 and 6.5.

### **9.3 EU Animal By-Products Regulation**

The applicant will be obliged to comply with this Regulation and obtain the appropriate permits on an on-going basis from the Department of Agriculture, Food and the Marine to accept and treat animal by-products.

#### 9.4 Environmental Liabilities Directive (2004/35/EC)

**Condition 10** of the RD requires the applicant to prepare a Decommissioning Management Plan (DMP) and **Condition 12** requires the completion of an Environmental Liabilities Risk Assessment (ELRA) and making of financial provision.

#### 9.5 European Communities (Greenhouse Gas Emissions Trading) Regulations 2012

The combustion of fuels in installations with a total rated thermal input exceeding 20MW is an activity listed in Schedule 1 of the above Regulations. Both CHP engines when operational are estimated to have a 924kW loading. The applicant has estimated that the facility will generate approximately 1.0MW of energy (electricity and heat).

### **10 Environmental Impact Assessment Directive (85/337/EEC)**

The following section identifies, describes and assesses the likely significant direct and indirect effects of the proposed activity on the environment, as respects the matters that come within the functions of the Agency, for each of the following factors: human beings, flora, fauna, soil, water, air, climate, the landscape, material assets and cultural heritage.

The main mitigation measures proposed to address the range of predicted significant impacts arising from the activity have also been outlined. The cumulative impacts with other developments in the vicinity of the activity have also been considered, as regards the impacts of emissions from the activities. This section must be read in conjunction with the analysis carried out in all sections of this report.

#### *10.1 Assessment of effects*

##### 10(a) Human Beings

<b>Likely significant effect</b>	<b>Description of effect</b>	<b>Assessment addressed in section:</b>
Socio-Economic	No significant negative impact predicted. Positive effect in terms of provision of direct and indirect employment.	10(a)(i)
Traffic	Traffic and its associated emissions, risks and disamenity effects.	10(a)(ii)
Impact on air quality	Emissions of dust, odour, bio-filter and combustion engine off-gases, and bio-aerosols.	10(e)(i)
Noise	Disamenity from noise emissions due to licensed activities.	10(a)(iii)
Accidents	Emissions to the local atmosphere,	10(a)(iv)

	ground and water bodies. Noise, odour and litter nuisance.	
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## Assessment of Effects on Human Beings

### 10(a)(i) Socio-Economic

The proposed development will have a positive impact on the local community in the creation of ten full time positions at the facility.

Local people might not be fully aware of operations at the facility.

#### *Mitigation Measures*

The RD requires a public awareness and communications programme.

#### *Conclusion*

I am satisfied that the likelihood of a negative socio-economic impact as a result of the facility is negligible.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

### 10(a)(ii) Traffic

The traffic and transport assessment included in the licence application stated that the proposed development does not provide any negative impact on the existing local road network and will not affect any future proposals in the area. The site entrance is close to the N4 national primary road which have adequate capacity for the vehicle load resulting from the development.

There is a risk of dirty vehicles tracking dirt from the facility onto the public road.

#### *Mitigation Measures*

The RD requires use of a wheel wash and sets hours of operation and waste acceptance.

#### *Conclusion*

Based on the above assessment and the mitigation measures in place, I am satisfied that the likelihood of a negative impact as a result of traffic connected with the facility is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

### 10(a)(iv) Noise

There will be machines, pumps, gas engines, flares and other equipment in operation at the facility, all with the potential for noise emissions. The noise impact assessment completed by the applicant predicted that noise levels from the proposed activity will not exceed 55dB(A).

#### *Mitigation Measures*

The RD requires the licensee to carry out a noise survey if so directed by the Agency. **Schedule B.4 Noise Emissions** of the RD includes limit values for emissions during day, evening and night time hours. The noise emission limit value during daytime hours is 55dB  $L_{Ar,T, 30 min}$ .

#### *Conclusion*

Based on the assessment carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact as a result of noise emissions connected with the facility is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

#### 10(a)(v) *Accidents*

There is a risk of an accident at the facility as the production and temporary storage of biogas in the AD system is a potential hazard. A fire or explosion could cause short term environmental pollution of the local atmosphere, ground and water bodies. It could also result in noise, odour and litter nuisance.

#### *Mitigation measures*

The RD requires the licensee to:

- employ a suitably qualified and experienced facility manager (**Condition 2.1.1**);
- complete a construction quality assurance validation for all specified engineering works which includes the construction of the facility (**Condition 3.3** and **Schedule D**);
- put in place a documented Accident Prevention Procedure which addresses all hazards on-site (**Condition 9.1**);
- put in place an Emergency Response Procedure which will ensure any effects of an emergency on-site are minimised (**Condition 9.2**);
- implement a preventative maintenance programme (**Condition 2.2.2.9**); and
- implement procedures to ensure corrective and preventative action is taken should the specified requirements of the licence not be fulfilled (**Condition 2.2.2.6**).

*Schedule C* of the RD requires:

- the gas pressure in the AD system to be monitored continuously and to be fitted with an alarm;
- the continuous burn of the biogas engines to be monitored continuously and to be fitted with an alarm;

- automatic ignition of the flare; and
- the continuous monitoring of the status of pressure relief valves on the AD system.

The applicant confirmed that:

- the facility design complies with the Building Regulations 1997 Part B - Fire Safety, as amended,
- the facility will be validated as part of the commissioning process and inspected by safety officers prior to start-up,
- the plant will automatically shut down in a safe manner in the event of equipment failure or specific dangerous situations arising, and
- health and safety risk assessments and internal audits will be completed to ensure hazards are identified and the subsequent risks are minimised.

#### *Conclusion*

Based on the mitigation measures in place, I am satisfied that the likelihood of an accident connected with the facility is low.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

#### 10(b) Flora and Fauna

<b>Likely significant effect</b>	<b>Description of effect</b>	<b>Assessment addressed in section:</b>
Impact on any flora and fauna in the area.	Development of the AD facility. Discharge of rain water run-off to land drain.	10(b)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	10(a)(iv)

#### **Assessment of Effects on Flora and Fauna**

##### *10(b)(i) Flora and fauna.*

Whilst the construction of any new facility can displace existing flora and fauna, an ecological assessment of the potential impacts on flora and fauna on and near the site concluded that the activity will not negatively impact on flora and fauna because the site and the local area is not designated as of ecological interest.

The presence of food waste at the facility could attract pests and vermin.

It has been determined that this facility does not have the potential for significant effects on any European site due to rain water run-off being the

only discharge to land drain from the facility and its distance to European sites.

*Mitigation Measures*

The RD requires that all waste is stored inside enclosed storage and holding areas or vessels protected against spillage and odour emissions.

The RD requires waste held in the quarantine area to be stored under appropriate conditions to avoid the attraction of vermin. The RD also requires that vermin do not cause impairment of the environment at the facility. A daily inspection of the facility is also required for the detection of nuisances caused by vermin.

The RD requires the treatment of yard run-off prior to discharge.

*Conclusion*

Based on the ecological assessment carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on flora and fauna is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

10(c) Soil

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on soil.	Accidental spillage or discharge to ground.	10(c)(i)
Accidents.	Emissions to the local atmosphere, ground and water bodies.	10(a)(iv)

**Assessment of Effects on Soil**

*10(c)(i) Soil*

Operations at the facility could have an impact on soil due to the potential for spillage of waste or other substances.

An assessment of the potential impact on soils, geology and hydrogeology in the vicinity of the site concluded that the impacts from the operational phase of the proposed activity are considered to be negligible.

*Mitigation Measures*

The RD includes requirements for safe storage and handling of wastes, fuels and materials.

The RD requires an accident prevention policy and emergency response procedure.



The RD requires that the sanitary wastewater treatment system meets the criteria set out in EPA guidance.

*Conclusion*

Based on the assessment carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on soil is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

10(d) Water

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on surface water.	Discharge of rain water run-off to a nearby land drain.	10(d)(i)
Impact on groundwater.	Contamination of groundwater due to accidental spillage or discharge to ground.	10(d)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies.	10(a)(iv)

**Assessment of Effects on Water**

10(d)(i) *Surface water and groundwater*

There are no process emissions to surface water or groundwater.

Contaminated rainwater run-off, caused for example by poor operational practices that allow waste or other materials to be deposited on the concrete hardstanding surfaces at the facility, could flow as an emission from the facility. Spillages or deposited material on unsealed ground could result in contaminated water percolating to ground causing groundwater pollution.

*Mitigation Measures*

Rain water run-off will be treated prior to discharge to land drain.

The RD requires control and monitoring of yard run-off.

The RD requires impermeable concrete surfaces to be maintained in all waste and digestate movement, holding, storage or processing areas. The RD requires the capture of all run-off from hardstanding areas.

All waste storage and treatment will be indoors or in contained vessels, minimising the risk of material being spilled in the yard.

The RD requires all tanks to be rendered impervious to their contents and to be bunded.

The RD prohibits any direct emission to ground or groundwater.

See also section 10(c), Soil.

*Conclusion*

Based on the nature of the discharge and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on surface water and groundwater is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

10(e) Air

Likely significant effect	Description of effect	Assessment addressed in section:
Impact on air.	Emissions of dust, odour, bio-filter and combustion engine off-gases, and bio-aerosols.	10(e)(i)
Accidents	Emissions to the local atmosphere, ground and water bodies. Noise, odour and litter nuisance.	10(a)(iv)

10(e)(i) Impact on Air Quality

As explained in section 6.1 above, the air dispersion and odour modelling demonstrated that there would be no significant environmental impact as a result of emissions to air at the facility.

*Mitigation Measures*

The RD requires:

- incoming waste and feedstock to be stored in a manner that prevents nuisance;
- all waste storage and treatment to be carried out inside a building or in an appropriately enclosed or covered area;
- the installation of an odour management system; and
- **Schedule B.1 Emissions to Air** of the RD includes limit values for emissions from all scheduled emission points.

*Conclusion*

Based on the modelling carried out and the mitigation measures in place, I am satisfied that the likelihood of a negative impact as a result of emissions to air connected with the facility is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation

measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

10(f) Climate

Likely significant effect	Description of effect	Assessment addressed in section:
Release of climate altering substances.	Emission of greenhouse gases.	10(f)(i)

**Assessment of Effects on Climate**

*10(f)(i) Release of climate altering substances*

The primary purpose of the methane produced in the AD process is for the production of electricity/heat.

Generation of biogas from biodegradable waste and its combustion to generate energy will reduce the greenhouse gas release potential of the treated biodegradable waste.

In generating approximately 1.0MWe of energy the facility will be a net exporter of electricity to the national grid and have an overall positive effect on the climate.

*Mitigation Measures*

**Schedule B.1** has recommended emission limit values for Oxides of Nitrogen and Total Volatile Organic Compounds (including CH<sub>4</sub>) for both CHP engines.

*Conclusion*

Based on the nature of the activity and the mitigation measures in place, I am satisfied that the likelihood of a negative impact on climate as a result of emissions from the facility is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

10(g) Landscape, Material Assets and Cultural Heritage

Likely significant effect	Description of effect	Assessment addressed in section:
Visual impact on nature of landscape.	The facility will be located in a rural area and create an undesirable visual impact.	10(g)(i)
Impact on material assets and cultural heritage.	Potential for impact on archaeological artefacts. Potential	10(g)(ii)

	for nuisance impact.	
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### **Assessment of Effects on Landscape, Material Assets and Cultural Heritage.**

#### **10(g)(i) *Visual impact on nature of landscape.***

A landscape and visual impact assessment was carried out and it was concluded that the proposed development will not create a significant landscape and visual impact on the existing environment.

##### *Mitigation Measures*

The EIS stated that the proposed planting will be subject to on-going maintenance strategies and monitoring, to ensure the satisfactory establishment of the planting facility and therefore the effectiveness of its screening potential over time. Schedule 1, Condition 5(i) of the grant of permission issued by Westmeath County Council specifies the landscaping requirements for the facility.

##### *Conclusion*

Based on the proposed mitigation measures, I am satisfied that the likelihood of a negative visual impact as a result of the facility's presence is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

#### **10(g)(ii) *Material assets and cultural heritage.***

An assessment of material assets which includes land, local settlement, electricity supply, road network and water supply concluded that the proposed development will not result in any significant environmental impacts.

A cultural heritage impact assessment was carried out and it was determined that ground disturbances may have a significant or profound effect on previously unrecorded archaeological features or deposits that have the potential to survive beneath the current ground level.

##### *Mitigation Measures*

The cultural heritage impact assessment recommends archaeological testing of the site and that any ground disturbances are monitored by an archaeologist. These recommendations have been carried forward into Schedule 1 Condition 12 of the grant of permission by Westmeath County Council.

The RD requires nuisance monitoring. This requirement should ensure residential quality in the area is maintained.

##### *Conclusion*

Based on the proposed mitigation measures in place, I am satisfied that the likelihood of a negative impact on material assets and cultural heritage is not significant.

Accordingly, if the activities are carried out in accordance with the RD and the conditions attached, the operation of the activities will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

**10(h) Interaction of effects**

I have considered the interaction between the factors referred to in Tables 10 (a) to (g) above and the interaction of the likely effects identified.

The interaction between factors as a results of the operation of the facility are summarised in Figure 2.

*Figure 2: Interaction of effects.*

	Human Beings	Climate	Air Quality	Noise	Soils, Geology & Hydrogeology	Cultural Heritage	Ecology	Material Assets	Landscaping	Roads and Traffic
Human Beings	●	●	●	●	●	●	●	●	●	●
Climate	●	●	●				●		●	
Air Quality	●	●	●				●			
Noise	●			●			●			
Soils, Geology & Hydrogeology	●				●			●	●	
Cultural Heritage	●					●				
Ecology	●	●	●	●			●		●	●
Material Assets	●							●		
Landscaping	●		●		●		●		●	
Roads and Traffic	●						●			●

Based on the assessment in parts 10 (a) to (g) above, and the mitigation measures proposed (including the relevant conditions in the licence), I do not consider that the interactions identified are likely to cause or exacerbate any potentially significant environmental effects of the activity.

**10.2 Reasoned Conclusion on Environmental Impact Assessment**

Having regard to the impacts (and interactions) identified, described and assessed above, I consider that the mitigation measures proposed will enable the activity to operate without causing environmental pollution. I also consider that the potential impacts on the environment identified above, even if they occur, are unlikely to damage the environment as a whole, and the risk of them occurring is not unacceptable.

## 11 Habitats Directive (92/43/RC) & Birds Directive (79/409/EEC)

As shown in Table 4 below, there are six Natura 2000 sites in the vicinity of the facility.

Table 4: Proximity of local designated sites.

Natura 2000 Site	Site Code	Direction from Facility	Approximate Distance from the Facility (Km)
River Boyne and River Blackwater SAC <sup>Note 1</sup>	002299	Northeast – east	11
Mount Hevey Bog SAC	002342	Southeast	15
Lough Ennell SAC & SPA <sup>Note 2</sup>	SAC 000685 SPA 004044	Southwest	9
Lough Owel SAC & SPA	SAC 000688 SPA 004047	Northwest	11
Scragh Bog SAC	000692	Northwest	11.5
Lough Derravaragh SPA	004043	Northwest	13

Note 1: Special Area of Conservation (SAC).

Note 2: Special Protection Areas (SPA).

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the proposed activity, individually or in combination with other plans or projects are likely to have a significant effect on the European Sites.

In this context, particular attention was paid to the European sites at River Boyne and River Blackwater SAC, Mount Hevey Bog SAC, Lough Ennell SAC & SPA, Lough Owel SAC & SPA, Scragh Bog SAC and Lough Derravaragh SPA. The Agency considered, for the reasons set out below, that the proposed activity is not directly connected with or necessary to the management of those sites as European Sites and that it can be excluded, on the basis of objective scientific information, that the proposed activity, individually or in combination with other plans or projects, will have a significant effect on a European site, and accordingly the Agency determined that an Appropriate Assessment of the proposed activity was not required.

Of the six designated sites listed above, the River Boyne and River Blackwater SAC is the only site that is directly downstream and downwind of the facility. This SAC was selected for alkaline fen and alluvial woodlands, both habitats listed on Annex I of the EU Habitats Directive. The site was also selected for Atlantic Salmon, Otter and River Lamprey which are listed on Annex II of the same directive.

Storm water from the facility discharges to the Riverstown River which in turn discharges to the River Deel (Raharney) approximately 11Km from the facility. As a tributary of the River Boyne the River Deel is included in the River Boyne and River Blackwater SAC. This storm water discharge is unlikely to have an impact on the Atlantic Salmon, Otter and River Lamprey in the SAC due to the nature of the discharge and its distance from the SAC. The south to west prevailing wind may carry air emissions from the facility in the direction of the SAC. The nearest section of the SAC is located approximately 7km to the northeast of the facility and as such

any air emission from the facility is unlikely to have a significant impact on the SAC's alkaline fens or alluvial woodlands. The Dispersion Model Report<sup>1</sup> concluded that the facility will not result in any significant impact on air quality in the surrounding area with all ground level concentrations of pollutants within their respective limit values.

Mount Hevey Bog SAC is connected to two other tributaries of the River Deel which are not connected to the Riverstown River. As such the facility will not impact upon Mount Hevey Bog SAC.

Lough Ennell SAC & SPA, Lough Owel SAC & SPA, Scragh Bog SAC and Lough Derravaragh SPA are unlikely to be impacted by the proposed facility as the nearest of these designated sites are located 9km from the facility, there are no common pathways via surface water, there are no process emissions to groundwater from the facility and any air emissions from the facility will be mainly carried by a south to west prevailing wind away from these designated sites as confirmed in Section 7 of the Dispersion Model Report.

The reasons for which the Agency determined that an Appropriate Assessment of the proposed activity is not required are as follows:

- The facility is not located within a European Site.
- The activity will not result in damage to, or loss of, habitat in a European Site.
- There will be no process discharge from the facility to the European Sites.
- Storm water is the only proposed discharge to surface water from the facility.

## **12 Best Available Techniques (BAT)**

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Decision comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard – as may be relevant – to the way the facility is located, designed, built, managed, maintained, operated and decommissioned.

## **13 Fit & Proper Person Assessment**

The 'fit and proper person' assessment requires three areas of examination:

### **(i) Technical Ability**

The General Manager of the proposed facility, Mr TJ Moloney, has a BSc in Agricultural Science and 18 years' experience as a manager within the agribusiness sector. The Operations Director, Mr Paul Flynn, has 25 years' experience in operating a transport and agribusiness.

The AD/CHP technology provider will initially provide a minimum of 6 months on-site training on the operation of the facility and subsequent to this will also provide offsite monitoring of the process.

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<sup>1</sup> *Dispersion Modelling Assessment of Emissions from Proposed Anaerobic Digestion Facility to be Located in Bio Agrigas Ltd, Newdowns, The Downs, Mullingar, Co. Westmeath (May 2011).*

**Condition 2.1** requires a suitably qualified and experienced manager or deputy to be present at the facility at all times during its operation.

(ii) Legal Standing

The applicant, Bio Agrigas Limited, has never been convicted of any relevant offence.

(iii) Financial Standing

The applicant submitted the Director's Report and consolidated financial statements for the year ended 30 June 2012 for Thomas Flynn & Sons Ltd (CRO NO. 75620) as a means of providing evidence that Bio Agrigas Limited (CRO No. 496273) is in a position to meet any relevant financial commitments or liabilities. These documents were submitted because Bio Agrigas Ltd has not begun trading. The four directors of Bio Agrigas Ltd are also directors of Thomas Flynn & Sons Ltd.

In order to estimate the likely cost of removing waste from the facility in the event of sudden closure, the applicant was requested to confirm the storage capacity for each tank and storage area in order to allow for the calculation of the maximum capacity for waste storage at the facility. This information was not provided in full<sup>1</sup>. The largest storage areas at the facility include the: waste reception tank, three silage pits, five pre-storage tanks, two anaerobic digestors and two post digestion storage tanks and the combined volume of these storage units has been confirmed as 28,790m<sup>3</sup>. The applicant stated that the typical cost for the removal of content from these storage units would be €150 per tonne. This figure seems high taking into consideration that non-hazardous biodegradable waste, silage, beet and slurry are the feedstock types accepted at the facility. At this rate €4,318,500 would be required for the removal of waste, feedstock and quality digestate from the above storage units. A lower unit cost for removal of waste would reduce the value of the financial provision required.

**Condition 10.2.1** of the RD requires a decommissioning and closure plan to be agreed by the Agency prior to commencement of waste acceptance at the facility.

**Condition 12.2.2** of the RD requires the submission of an ELRA prior to the commencement of waste acceptance at the facility.

**Condition 12.2.3** of the RD requires the making of a financial provision that is agreeable to the Agency prior to the commencement of waste acceptance at the facility.

There is no information at this time which would indicate the applicant is not a Fit & Proper Person.

## 14 Cross Office Liaison

In preparing this report and Recommended Decision the following technical and sectoral advisors were consulted:

Inspector	Assistance provided
Dr Ian Marnane John McEntagart	Matters related to air and odour dispersion modelling

<sup>1</sup> Storage unit volumes were not provided for the mixing tank, the hygienisation tanks, the slurry tank.



Brian Meaney	
Pamela McDonnell	Matters related to Environmental Impact Assessment

## 15 Recommended Decision

The RD will authorise the acceptance and treatment of biodegradable waste and other biodegradable feedstock for treatment by anaerobic digestion, the generation of biogas and the combustion of biogas in combined heat and power engines. The RD specifies a number of mitigation measures and emissions limit values to give effect to the requirements of the national legislation. The RD has regard to submissions made and was prepared in consultation with sectoral experts as detailed above.

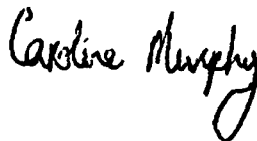
## 16 Charges

The financial charge proposed in the RD is **€9,478**. This has been calculated based on the enforcement effort predicted for this facility.

## 17 Recommendation

I have considered all the documentation submitted in relation to this application and recommend that the Agency grant a licence subject to the conditions set out in the attached RD and for the reasons as drafted.

Signed:



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Caroline Murphy  
Inspector  
Environmental Licensing Programme

## Procedural Note

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Act 1996, as amended.

# Appendix 1

Figure 3: Facility Environs.

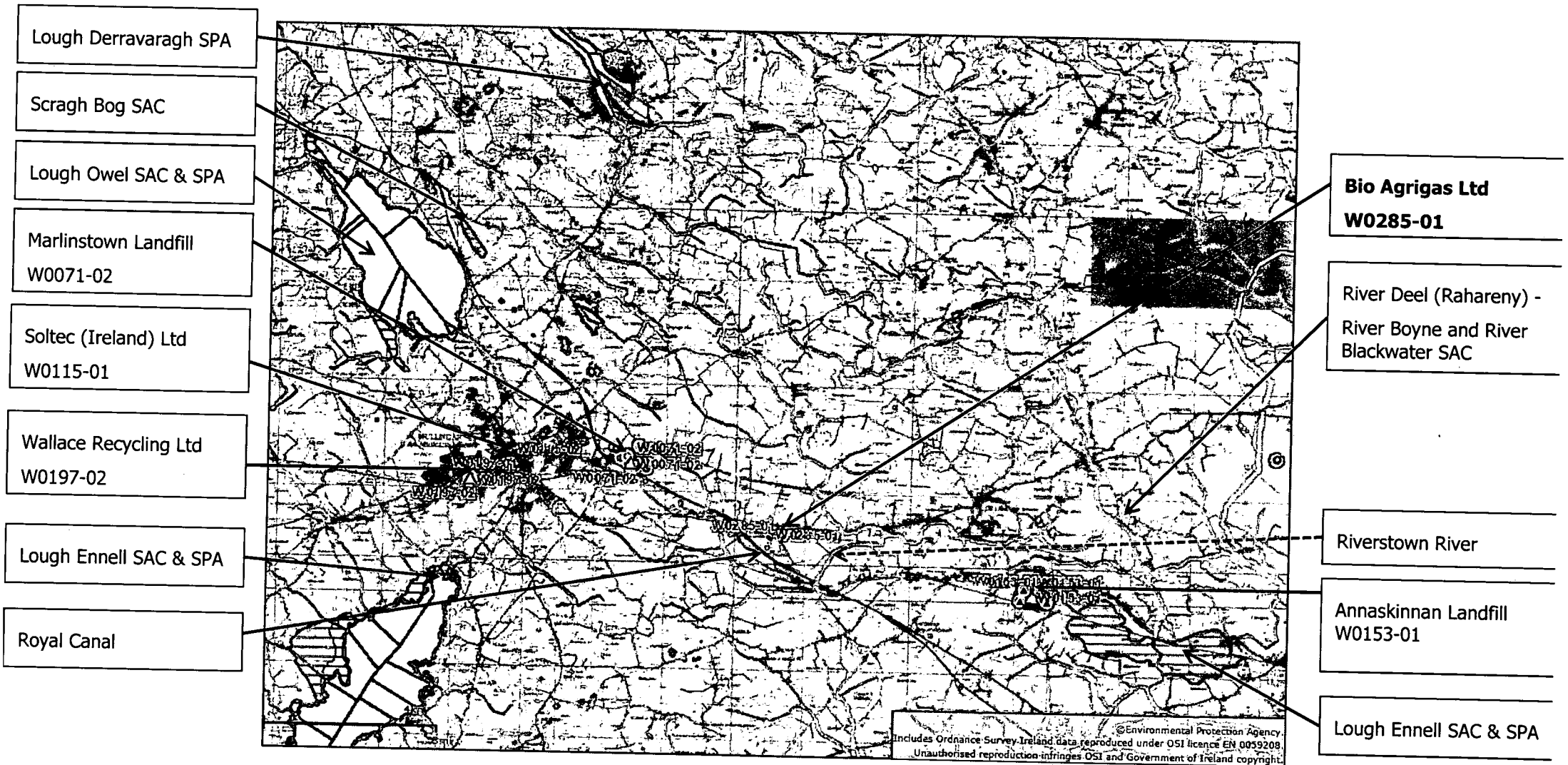


Figure 4: Facility boundary, storm water discharge location and noise monitoring locations.

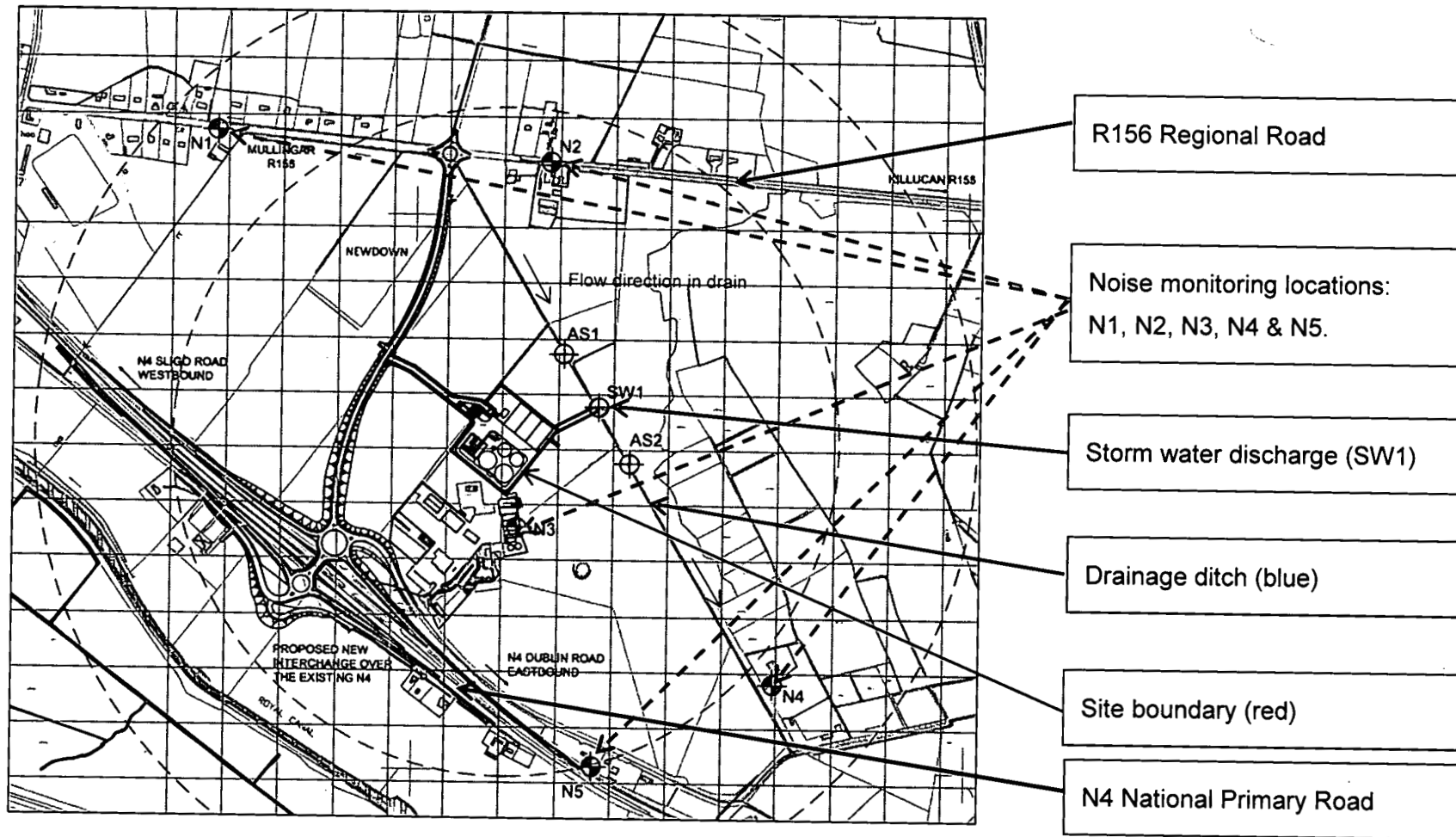


Figure 5: Site layout plan.

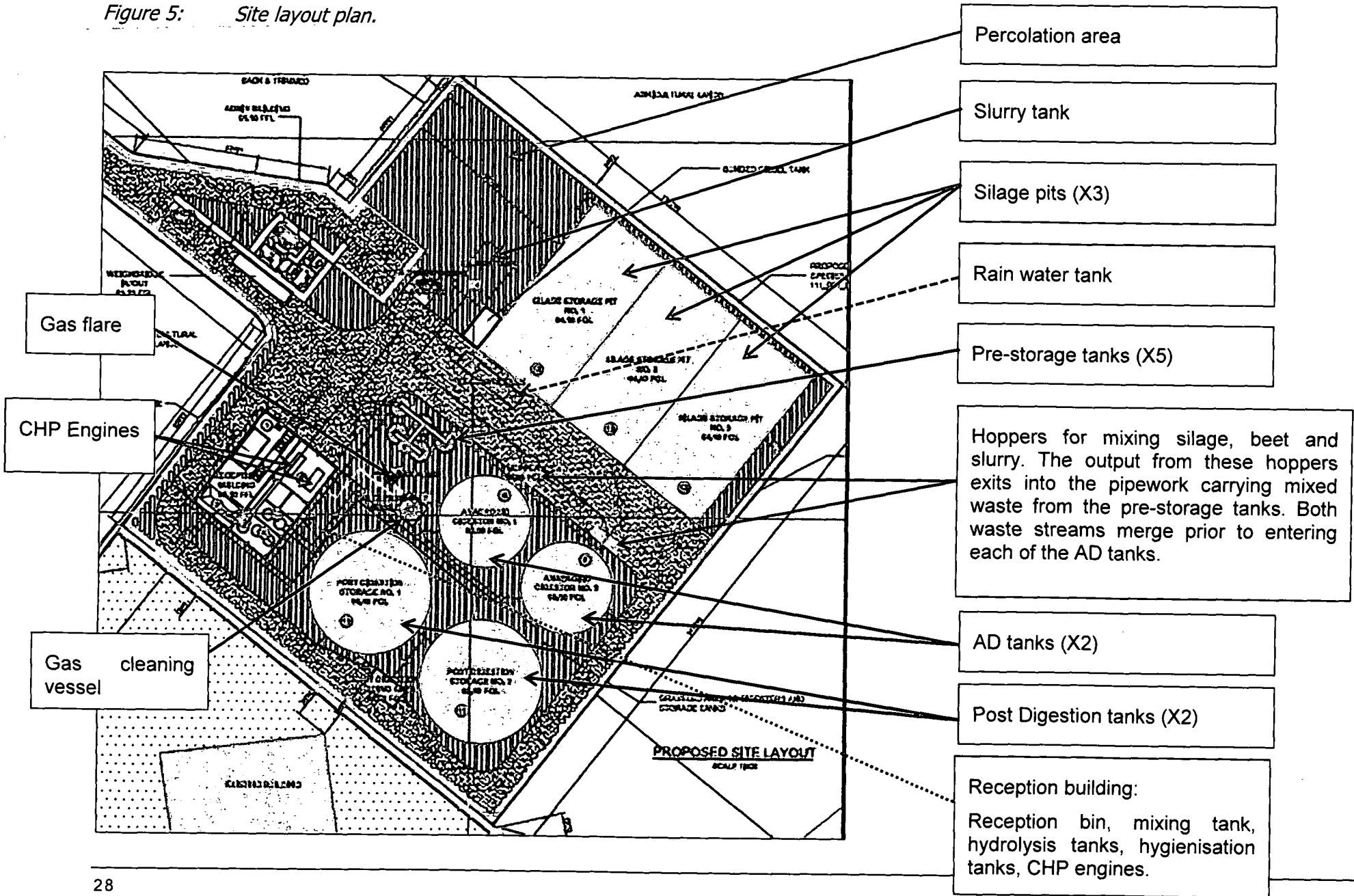


Figure 6: Emissions to air and dust monitoring locations.

