

# **ENVIRONMENTAL IMPACT STATEMENT (E.I.S.)**

**RELATING TO**

**PIG ENTERPRISE  
AT**

**ARDRA,  
BRACKNAGH,  
CO. OFFALY.**

**FOR**

**ROSDERRA FARMS,  
BRACKNAGH PIG FARM  
ARDRA,  
BRACKNAGH,  
CO. OFFALY.**

**C.L.W. Environmental Planners Ltd.**

***December 2014***

## 1.0 Non - Technical Summary

### Introduction

This Environmental Impact Statement (E.I.S.) has been prepared by Mr. Paraic Fay B.Agr.Sc, Ms. Barbara Olwill MRUP B.Agr.Sc Dip EIA/SEA Mgnt. and Mr. Oliver Leddy B.Agr.Sc. of C.L.W. Environmental Planners Ltd. with the assistance of persons and bodies referred to hereafter. This E.I.S. has been prepared after an Environmental Impact Assessment (E.I.A.) of the existing and proposed development in accordance with the Planning and Development Acts 2000-2013, Planning & Development Regulations 2001-2013 and the Protection of Environment Act 2003.

This E.I.S. forms part of a planning application to be submitted to Offaly County Council on behalf of **Rosderra Farms, Bracknagh Pig Farm, Ardra, Bracknagh, Co. Offaly**, for permission to;

- a) demolish 10 No. Existing pig houses, and,
  - b) construct 2 No. Pig Houses, and, extensions to two No. existing structures to form pig house No. 3,
- along with all ancillary structures (to include meal storage bins, storage tanks, stormwater attenuation tank.) and all associated site works on the site of an existing pig farming enterprise located at Ardra, Bracknagh, Co. Offaly. (National Grid Reference: E 259459 N 218316)

The proposed developments will ensure compliance with animal welfare regulations (known as S.I. No. 311 of 2010) and the Nitrates Regulations, (known as S.I. 31 of 2014). The proposed development will allow for a re-development of proposed activities on the farm by providing for a specialisation of farming practices on the site. This revised proposal will provide for a conversion from the existing 550 sow Integrated pig unit, to a specialised 1,250 sow breeding farm. While there is an alteration in the animal numbers/classes proposed on-site, it will not result in any effective intensification of use and/or activities on the farm.

The farm and site of the proposed development, i.e. the subject site, is located on c. 4 Ha. in the town land of Ardra. The site is accessed from the Regional road, the R 419 which runs from Portarlinton to Rathangan, and through Bracknagh Village. The site is located, c. 0.6 km's north west of Bracknagh and is accessed by c. 350 m of an internal roadway/laneway leading from the aforementioned regional road and terminating at the pig farm.

### Description of Development

The proposed development on this farm is twofold.

- **Primarily** it is proposed to decommission the existing pig housing on site and replace with 3 No. modern, purpose built and designed pig houses. In addition the overall design concept will provide improved measures for environmental protection (including improved quantity and quality of manure storage structures,

improved flood risk mitigation measures and stormwater attenuation proposals), animal welfare, energy efficiency and animal performance.

- **Secondly**, at this juncture and in line with Rosderra's over all development plan for the next 10 – 15 years it is proposed to develop this farm as a specialised pig breeding unit. While the numbers of sows and breeding stock will increase this will be off-set by the fact that all fattening pigs will be moved to off-site finishing accommodation. As a result it is envisaged that there will be no net intensification of activities on the farm.

Specialisation of production was deemed essential to achieve improved economies of scale from all of the investments on-site and in order to ensure the future viability and competitiveness of this farm. In the circumstances the applicant has decided to specialise as a breeding farm, instead of the integrated pig farm as it currently operates. Finishing stock will not be held on the site and instead stock will be bred and reared on the farm until they reach c. 35kg's. They will then be brought from this farm to a specialised finishing farm at c. 35 kg's and reared until they reach the required market weight, c. 110kg's.

Improvement in production efficiencies and performance are dependent on provision of adequate top quality housing and welfare in tandem with modern feeding and ventilation systems. The currently proposed development is required to allow for the conversion of this approved development from a integrated pig farm, to a specialised pig breeding farm with satisfactory accommodation to breed and rear pigs to an average weight of c. 35kg's in line with current animal welfare regulations, and to make provision for the required washing routines and all in/all out production system.

The purpose for which this Environmental Impact Statement has been completed is in support of a planning application for the proposed development as required by the planning and development regulations. The E.I.S. will also be submitted to the Environmental Protection Agency (E.P.A.) as part of the Licence review procedures to be completed for this farm.

It is the intention of the applicant to continue to operate the farm with the uppermost regard for environmental protection while at the same time implementing modern welfare and environmentally friendly management processes on the farm. Modernisation/consolidation is an essential part of viable and sustainable pig production. The structures for which permission is being sought incorporate modern design concepts in the areas of animal welfare, labour efficiency, manure storage, insulation, ventilation and environmental protection in the operation of the farm.

Improvement in performance in the breeding herd is dependant on provision of adequate top quality housing and welfare in tandem with modern feeding and ventilation systems and top quality genetics.

Rosderra Farms **proposes** to complete the following works on this existing pig farm:

- Decommission existing pig housing and ancillary structures,
- construct 2 No. Pig Houses, and, an extension between two No. existing houses to form pig house No. 3,
- together with all site works and ancillary structures (to include meal/feed storage bins, stormwater attenuation tank, ancillary storage tanks etc.).

The proposed developments will be located on the site of, and/or adjacent to the existing pig farm, and as highlighted on the accompanying drawings.

The proposed revision to the planned operation of this farm is required to improve the health status of the pigs produced. The Bracknagh Pig Farm will be used to supply pigs to alternative finishing accommodation located elsewhere.

These proposals are being sought to,

- Ensure compliance with animal welfare recommendations with regard to stocking densities etc.
- Provide adequate space in order to rear pigs to a suitable weight for transfer to specialised pig finishing accommodation.
- Improve the health status of the pig herd by allowing time for a batch type production system (i.e. all in/all out) and weekly routine washing procedures in the finisher accommodation.
- Increase the sow numbers on this farm so as to ensure that maximum benefit is obtained from the skilled labour therein.
- Improve the quality of buildings and ancillary structures on the farm so as to ensure that pig production at this farm is carried out in an economically/financially viable fashion and in an environmentally friendly manner well into the next decade.
- Reduce manual labour requirement and make stockmanship the key to efficient welfare conscious production.
- Integrate improved environmental protection measures into the overall operation of the farm including, improved manure storage facilities, stormwater attenuation, flood risk mitigation etc.

### **Organic Fertiliser Production and Storage**

The provision of adequate storage for organic fertiliser produced on the farm, and the efficient use of the nutrients contained therein, is a major environmental factor in developing pig enterprises. Existing organic manure production as previously approved equals c. 11,330 m<sup>3</sup> per annum, based on the average occupancy rate of 550 Sows Integrated. This will fall marginally to c. 11,310 m<sup>3</sup> upon completion of the proposed development of a 1,250 sow breeding unit.

The net organic manure storage capacity on the farm as it exists equals c. 5,363 m<sup>3</sup>, however this will increase to c. 18,000 m<sup>3</sup> once the proposed developments are completed, (c. 19 months manure production). This storage capacity will ensure that organic fertiliser produced on the farm is spread only under favourable soil and climatic conditions, and is well in excess of the 6 months storage as required by the Nitrates Directive (S.I. 31 of 2014) and EPA Licensing requirements.

Organic fertiliser / manure produced on the farm will be utilised on agricultural land that has an agronomic requirement for this fertiliser. All new manure storage structures will be constructed to Department of Agriculture, Food and the Marine Standards, and in line with Offaly County Council and Environmental Protection Agency (E.P.A.) requirements. Should there be any discrepancy between the buildings as proposed, and the Department of Agriculture, Food and the Marine, Offaly Co. Co. and/or E.P.A. requirements, the latter



shall take precedence. Due to the mitigation measures to be implemented on site, i.e. the quality and adequacy of manure storage facilities and the significant demand for organic fertiliser in this area, manure produced on this site has not had, and will not have, a significant adverse environmental impact on the site and/or surrounding area.

### ***Utilisation of Organic Fertiliser***

The organic fertiliser from this farm will be used by the customer farmers in accordance with S.I. 31 of 2014, or any subsequent amendment to same. Farmers are entitled to fertilise their farmland with a fertiliser source of their choice, subject to the requirements and stipulations of this directive.

Rosderra Farms has a good knowledge of the demand for organic fertiliser in the area due to a long number of years experience with this existing pig farm. The proposed development will not result in any increase in the volume of organic fertiliser produced over and above that previously permitted.

The pig manure will be used by each customer farmer in compliance with S.I. 31 of 2014. The legislation confers rights and responsibilities on the customer farmer. It is clearly prescribed in Article 16 of S.I. 31 of 2014 that the responsibility for nutrient management planning is the responsibility of each occupier of a holding.

Pig manure is an animal by-product by reference to the Animal By-products Regulations (S.I. 252 of 2008 and Regulation EC/1774/2002). The deposition of by-product pig manure on land to supply fertiliser nutrients is provided for and is controlled under the Nitrates Regulations (S.I. 31 of 2014 and Directive 91/676/EEC) is lawful use of the manure and is not a waste recovery activity. The use by customer farmers, of pig manure from this installation on lands farmed by them is required to be in accordance with the terms prescribed in Fertilisers and Soil Improvers Order (S.I. 253 of 2008) and the Nitrates Regulations (S.I. 31 of 2014).

The system for the management of manure in this pig unit and for the lawful transfer of manure to customers (ie occupiers of other holdings) who seek a supply from the farm is:

- Collect all manure in tanks in the manner required under S.I.31 of 2014.
- Store all manure temporarily in the tanks pending sale or supply and transfer to customers, in response to customer demand, as by-product fertiliser, as is provided for and authorised under S.I. 252 of 2008 and S.I. 253 of 2008, in the knowledge that use by customers is required to be in compliance with standards prescribed in S.I. 253 of 2008 and S.I. 31 of 2014, and
- Record all transfers of manure from the farm/holding as is required by Article 23(1)(g) in S.I. 31 of 2014 and maintain the records for relevant inspectors.

All soiled water generated on the site will be diverted to the manure storage tanks. Pig movement between houses will be on slatted passageways with manure storage tanks underneath.

Information pertaining to the customer farmers and all other information as required by Article 23 and in line with the requirements and stipulations of, S.I. 31 of 2014, (European communities (Good Agricultural Practice for Protection of Waters Regulations 2014), will be maintained on-site and will be made available for inspection as required.

### ***Application of Organic Fertiliser***

Farmers will be advised as to the requirements to be complied with when applying organic fertilisers to land. In addition to this the farm manager will ensure that all information required to be forwarded to these customer farmers is completed as soon as practicable upon receipt by them of organic fertiliser. These requirements including the requirements pertaining to the application of animal manures to land are as outlined in S.I. 31 of 2014. Odour nuisance will be minimised and surface and ground waters protected by, using the correct application rates, spreading at the correct times under suitable conditions and strict adherence to cordon sanitaires and the Codes of Good Practice for manure spreading, as outlined in S.I. 31 of 2014. This fertiliser planning will result in fertiliser substitution.

### ***Soil***

The adequacy and quality of storage to be provided and the allocation and utilisation of all fertiliser produced on this farm in accordance with S.I. 31 of 2014 will ensure that this farm will have no negative impacts on the farmland. The adequacy of storage provided will ensure that organic fertiliser is spread only under the most favorable soil and climatic conditions, preventing any soil structural damage. Hydraulic and chemical loading will not be exceeded due to the fact that all organic fertiliser is to be applied in accordance with S.I. 31 of 2014, thus preventing nutrient build up in soils. As part of this Rosderra Farms will ensure that all farmers receive a copy of all relevant information as required by, and referred to in, S.I. 31 of 2014.

### ***Surface and Ground Water***

The pig farm is located in an area northeast of Bracknagh in Hydrometric Area No. 14, the Barrow Catchment. This farm is located in the Figile River catchment area.

Customer farmers are presently obliged to farm in accordance with S.I. 31 of 2014, or any subsequent amendment to/derogation from same. This also applies to the organic fertiliser utilised by them from Rosderra Farms's Pig farm. This has a long-term environmental benefit, and will ensure that there is no adverse impact on water quality in these areas. The E.P.A., Offaly Co. Co., and/or the local fisheries board carry out water quality monitoring on an ongoing basis in the area. To date there has been no indication that this existing development has had any adverse affect on water quality in the area.

The currently proposed developments, while altering the categories of pigs to be farmed, will not increase the scale of activity on the farm over and above that previously approved by Offaly Co. Co and the E.P.A., and compliance with S.I. 31 of 2014 and S.I. 311 of 2010 will ensure that the applicant meets all of his requirements with regard to animal welfare and nitrates regulations. The proposed developments will be completed to the highest standards and in line with Offaly Co. Co., E.P.A. and Department of Agriculture, Food and The Marine requirements. Surface and ground waters will remain protected due to the exclusion of any unsuitable land, spreading only at suitable times, adherence to the Codes of Good Practice for manure spreading and compliance with S.I. 31 of 2014.

Clean storm water discharge will be into a tributary of Figile River. All storm water from the proposed pig houses will discharge via a stormwater attenuation/drainage system, to the adjoining watercourse. Soiled water will be directed into the manure storage tanks. Surface and ground waters around the pig farm will remain protected, and will not be affected by the proposed development due to the quality and adequacy of storage to be provided on-site, and the separation of clean and soiled waters.

A site specific Flood Risk Assessment in accordance with *The Planning System and Flood Risk Management Guidelines* was undertaken as part of this EIA. This identified a limited flood inundation in 2008 on the site, and, estimated the 1 in 100 year and 1 in 1000 years flood levels as 61.56m OD and 62.14m OD respectively. The proposed replacement buildings and structures shall have finished floor levels approximately 1.8 metres above existing floor levels and proposed floor levels shall therefore be constructed approximately 1.3m – 0.7m above estimated 1 in 100 year and 1 in 1000 year flood levels. Overall, the flood risk to the proposed development is considered to be LOW. The proposed development works are not expected to have an adverse impact on the hydrological regime of the area and are therefore considered appropriate from a flood risk perspective.

The proposed new housing and associated slurry storage facilities will be built to current Department of Agriculture, Food and The Marine standards. The design will incorporate modern feeding and ventilation systems, and leak detection systems underneath all new manure storage tanks. The proposed development will also incorporate an appropriately designed stormwater management system and attenuation tank.

All overground storage tanks (with the exception of water storage tanks) will be bunded.

### ***Air / Climate***

All practicable steps, such as landscaping, washing routines etc., have been planned for on the farm and will be taken so as to minimise odour from the site. The nature of the proposed development i.e. the re-development of an existing pig farm with no overall increase in the amount of organic fertiliser produced should mean that there is no adverse impact on the local area. Its rural setting and location distant from local residences will ensure no significant adverse effect on human beings as a result of the proposed re-development. This development will have no significant adverse affect on climate.

### ***Visual Aspects and Landscape***

The farm and site of the proposed development, i.e. the subject site, is located on c. 4 Ha. in the town land of Ardra. The site is accessed from the Regional road, the R 419 which runs from Portarlinton to Rathangan, and through Bracknagh Village. The site is located, c. 0.6 km's north west of Bracknagh and is accessed by c. 350 m of an internal roadway/laneway leading from the aforementioned regional road and terminating at the pig farm.

In the Offaly County Development Plan 2014 – 2020 this area is classed as having a low landscape character value. The proposed developments are to be carried out on and/or adjacent to the existing pig farm structures. The pig farm is on a level site, and is/will be screened by the existing hedgerow/landscaping adjoining the site. The proposed

development will be adjacent to and/or within the existing farmyard complex, and site of the previously approved development and will be integrated into the site with the use of sympathetic colours and finishes and screening around the site. This will ensure that there will be no significant adverse visual impact on the local environment from the proposed development.

This pig farm is located in an agricultural area, and pig farming activities have been carried out on this site for a long number of years. The site is not located near to, and/or likely to impact any Areas of High Amenity, N.H.A.'s, S.A.C.'s, S.P.A's or monuments/places of Archaeological interest.

### **Noise/Traffic**

Scientific measurements of noise levels generated on a number of other pig farms were previously carried out on behalf of C.L.W. Environmental Planners Ltd. In all cases the readings were below the acceptable rural activity threshold. It is not anticipated that noise at this site will have any adverse impact on the local environment due to the fact that there are no dwellings, and no other potential sensitive locations located close to (within 250 m) the remaining/proposed pig farm buildings.

Traffic to and from the site will increase temporarily over and above that previously approved, due to the currently proposed development, as a result of the construction activities to be carried out on site associated with the proposed development. There will be no additional traffic associated with the operation of this farm over and above that previously approved. Traffic associated with the farm is/will be due to feed deliveries to the site (c. 3-4 load/week, the transport of organic fertiliser/manure from the farm (c. 11/12 load/week in the spreading season, i.e. 39 weeks), and the transport of pigs from the farm (c. 2 load out per week, increasing from 1 – 1.5 load out / week) and materials to and from the farm. The volume of traffic to and from the site can be minimised by optimising load sizes.

All other traffic such as vets, advisors, consultants etc. will not be significantly affected by the proposed development. This pig farm has existed for a long numbers of years and there has been no indication of an adverse environmental impact due to the traffic flows. Transport of dead animals from the farm to a rendering plant occurs weekly/fortnightly. The remainder of the traffic will be associated with staff movement to and from the site.

As previously stated the existing farm and site of the proposed development, i.e. the subject site, is located on c. 4 Ha. in the town land of Ardra. The site is accessed from the Regional road, the R 419 which runs from Portarlinton to Rathangan, and through Bracknagh Village. The site is located, c. 0.6 km's north west of Bracknagh and is accessed by c. 350 m of an internal roadway/laneway leading from the aforementioned regional road and terminating at the pig farm.

### **Flora and Fauna**

The organic fertiliser produced on this farm will be allocated to farming lands that have traditionally and/or are currently receiving animal manures (be they bovine, ovine, porcine



and/or avian in origin) and chemical fertilisers to maintain soil fertility and ensure satisfactory grass/crop production. The organic fertiliser produced on this farm will be used to replace the imported inorganic chemical fertiliser that would otherwise have to be, and is currently being, used.

All habitats within these lands such as wooded areas, scrubland etc. would be excluded from receiving organic fertiliser from this farm due to the requirements of the nitrates directive. A planned pest control programme is currently implemented on the farm. This will be revised to accommodate the proposed developments.

As this proposed development, (i.e. the construction of replacement pig houses and associated works), is to occur on the site of the previously approved development, it can be anticipated that this proposed development will have no significant adverse impact on flora and/or fauna in the area. This area has been an agricultural farmyard for a long number of years and thus has a poor level of plant diversity and is of no significant ecological importance. The majority of the surrounding area is traditional intensively managed grassland based agricultural lands.

Information from the website of the National Biodiversity Data Centre reveals that there are no records of rare or protected species from within the 1km square (N5918) of the proposed development.

### ***Special Policy Areas***

#### ***-N.H.A.'s, S.P.A.'s and S.A.C.'s***

The existing site and location of the proposed development is located in the Figile River catchment, part of Hydrometric Area 14. The site of the existing and proposed development is c. 6 km north of the River Barrow and River Nore Special Area of Conservation (S.A.C.). The upstream distance of the proposed development site from the SAC is 9.3km.

Activities at this site are not expected to have any adverse affect on the conservation of these areas and the wildlife contained therein for the following reasons,

- The existing and proposed pig farm is located a significant distance from and unlikely to impact on these areas.
- The existing farming activities have been carried out on this site without any adverse impact on the aforementioned designated areas, and the same high levels of management and expertise will be afforded to the operation of the proposed development, and improved upon where possible.
- All organic fertiliser arising from this farm is to be allocated to farms in accordance with S.I. 31 of 2014.
- The provision of a significant amount of manure storage capacity (c. 19 months) will ensure optimum management and storage of the organic fertiliser. This will help ensure that it is only allocated for use at times when ground and weather conditions are suitable.



### **-Amenity Areas**

The existing and proposed pig farm site is not located close to or likely to adversely impact on;

- Areas of High or Moderate Sensitivity, as listed in the Offaly County Development Plan 2009 – 2015, Landscape Classification.

This site is located in an area classified as having a Low Sensitivity landscape classification. The proposed development will be integrated into the surrounding land topography and existing and previously approved farm pig farm site. Any potential adverse visual impact will be minimised by the use of sympathetic finishes and colours to integrate this development into the existing pig farm site and local area, and ensuring that all existing hedgerows are maintained/strengthened where required.

### **-Cultural Heritage (incl. Architectural and Archaeological Features)**

There are no buildings/structures of architectural significance located on or adjacent to the proposed site or likely to be impacted by the proposed development. There is no evidence of any archaeological features at the site, and no such features were discovered during the completion of the existing developments. The proposed development is to be constructed on the site of the existing pig farm structures.

The proposed site is not located near, and/or likely to impact on any monuments or sites of archaeological interest as identified in the online database of the National Monuments Service. The closest recorded features are located c. 0.6 km to the east of the site, however records confirm that there are no significant remains of these features, which are now enclosed by a wall and covered with burial plots. As the proposed development is to occur on and/or adjacent to an existing brownfield site, and, as it is a significant distance away from recorded features, it is not anticipated that this development will adversely impact on the archaeological features or cultural heritage of the area.

This proposed development will have no impact on archaeological features within the areas of the customer farmlands as strict buffer zones will be applied to any archaeological features such as ring forts that are identified.

### **-Material Assets**

The proposed development, will require no additional land. Although the development of replacement pig accommodation will require construction materials in the completion of the development this will not adversely impact on the material assets of the area including agricultural and non-agricultural properties, or, resources including natural resources, land or other infrastructure.

### **Wastes Generated on-site**

All wastes generated on site, such as animal tissue waste, veterinary waste, general packaging etc., will be stored and disposed of/recovered in accordance with applicable regulations and in accordance with Offaly County Council and E.P.A. requirements. A

designated Construction and Demolition Waste Management Plan will be implemented on the farm for the duration of the proposed works.

### ***Population / Employment***

This pig farm has had, and will continue to have, a positive effect on population in the area. The pig farm will employ 4 - 6 people directly, leading to an indirect employment nationally of c. 10-15 people. The farm profitability of the customer farmers receiving pig manure is boosted by cheap fertiliser nutrients replacing imported energy demanding inorganic nutrients. This farm will have no adverse effect on tourism in the area of the site due to its remote location.

Agriculture is the mainstay of the local economy and provides a significant source of local employment. Within the country the pig sector is a key component of this. The pig sector makes a valuable contribution to the Irish agricultural economy and is valued at over €1.2 billion. The sector is a significant employer in rural Ireland with over 8,000 people employed in primary production, processing and allied industries.

An investment/development of the nature proposed will guarantee new jobs and will help secure a significant number of existing jobs, for the local community into the future.

The Bracknagh farm is an important part of Rosderra's supply chain, and the proposed redevelopment of this farm will provide an essential link in the supply chain of pigs to the Rosderra Irish Meats premises in Edenderry and Roscrea. There is the potential for c. 6 people to be employed on this farm. There is c. 40 people employed directly on Rosderra Farms pig farms with in excess of 1,000 people employed in total, within the Rosderra Meats group. This provides a significant source of employment in this area, and is a significant boost to the economy of Co. Offaly.

### ***Tourism***

Agriculture and tourism are the two most important industries to the economy of this area. A significant proportion of the rest of the economy of the area has arisen as ancillary services/businesses to these two main industries. It is of extreme importance therefore that these two industries can coincide and develop together for the good of everyone in the area. Agriculture is an all year round industry whereas tourism is mainly a seasonal one. The pig farm site itself will have no impact on tourism in the area.

The odour impact associated with the application of animal manures (porcine or bovine) is a transient one that only lasts for 2-3 days. It has been recommended that there will be no allocation of organic fertiliser from this farm to customer farmlands in close proximity to areas frequented by tourists, during holiday periods. Rosderra Farms have advised farmers that organic fertiliser allocations close to areas frequented by tourists or areas with a higher population density should be appropriately managed.

## Cumulative Effects

### Within the County;

This pig farm is located in southeast Co. Offaly, northwest of Bracknagh, and close to the border with Co. Kildare. Reference to the National Pig Census 2013 indicated that there are only c. 12 pig farms with greater than 100 pigs in the County, out of a total of 383 for the country. Thus pig production in Co. Offaly represents c. 3.13 % of the country's pig units. Further details included in this survey highlight the fact that only c. 6 % of the country's sow herd or, 3.67% of the finishing capacity is located in this county.

It is anticipated that the proposed development at this site will not lead to a negative cumulative impact on the local environment, due to;

- the low level of intensive farming in the county as a whole,
- the mitigation measures proposed, and,
- to the fact that there will be no intensification of activity and/or increase in the volume of organic fertiliser over and above that already approved for this farm/site.

This proposed development would also be in keeping with the goals of the National Spatial Strategy which seeks to achieve more balanced regional development to optimize the potential of all regions to contribute to the continuing prosperity of the country.

County Offaly does not have as intensive an agriculture sector as other counties such as Cavan, Monaghan and/or Cork, and farming in the county is based more around the traditional enterprises such as tillage, dairy and beef. Given the nature of the land in this area a significant proportion of the land in Offaly is given over to forestry and peat. The pig farming sector in Offaly is concentrated in a small number of specialised farms.

This application is for planning permission for the development of this farm from an approved, 550 sow integrated pig farm to a 1,250 sow specialised pig breeding farm, rearing pigs to c. 35kg's. While this will result in an alteration to the numbers of stock held on the farm (i.e. an increase in breeding stock, and the removal of all finisher pigs) this will be completed with no cumulative intensification of activities on the farm and/or increase in organic fertiliser production. The amount of organic fertiliser to be produced is significantly below that required by the customer farmers to maintain optimum soil fertility, and thus will have no significant adverse impact within the local area and/or county at large.

The applicant has planned the proposed development in such a way that;

- Utilizes the existing pig farm site while carrying out a substantial investment and the implementation of an array of measures to minimize potential adverse environmental impact.
- Ensures no net increase in the permitted volume of organic fertiliser to be produced and demonstrates satisfactory arrangements for storage and management of organic fertiliser, in line with the Department of Agriculture, Food and the Marine, E.P.A. and Offaly Co. Co. requirements.

- This development will occur on an existing pig farm, well removed from existing settlements and development clusters.
- The proposed revision of this approved integrated pig farm to a specialised pig breeding farm will have no significant impact on the amount of organic fertiliser to be produced and/or the amount of traffic to and from the farm.

The reduction in employment in other sectors of the economy has had a significant adverse impact on the Irish economy. Productive, efficient and sustainable agricultural activities, such as the proposed development, and the jobs dependant thereon, will be critical to the local and wider Irish economy.

### Within the Local Area;

While it has been detailed previously that the proposed development will not have any significant adverse cumulative impact within the county the potential cumulative impact on the immediate local area needs to be assessed separately.

The proposed development will result in a revision to the proposed stock numbers on the farm. The farm will change from a c. 550 sow place integrated pig farm to a c. 1,250 sow breeding unit. Pig farming activities have been carried out on the site for in excess of the past c. 20-25 years with no negative impacts. The current operators of the farm have not had any complaints regarding the activities at this farm.

The impact of the proposed development within the local area will be minimised by integrating it successfully within the existing approved pig farm site, proper management and storage of all wastes produced on the site and the utilisation of all organic fertiliser in accordance with S.I. 31 of 2014. The only significant physical alteration to the previously approved development as a result of the current proposal is associated with the construction of replacement pig housing on the site, the stormwater attenuation system, and associated site works/ancillary structures. The majority of the proposed works will be carried out within the existing building footprint. As this is a rural site, located a significant distance from local residences the potential adverse impact of same, when taken against the backdrop of the existing farm will be negligible.

The proposed development will provide for improved quality and quantity of manure storage structures, improved efficiencies and animal welfare, and improved environmental performance as a result of improved structures and flood mitigation measures.

A number of measures have been provided for in the design, layout and planned operation of the proposed development, so as to mitigate against any adverse impact in the local area or further afield. Any additional requirements placed on this development by Offaly Co. Co. and/or the E.P.A. as a result of planning permission or revised Licence conditions will be integrated into the development and operation of this farm. This will ensure that this proposed development will have no adverse environmental impact on the immediate area and will not lead to a negative cumulative impact on the local environment.



**Difficulties encountered in compiling the required information**

The processes and technology involved in the construction and operation of the proposed development are standard for agricultural, and in particular pig farm developments, and well understood. In addition the principles are already in practice on site with the existing development. The technical information on which to base an assessment of impact on environmental parameters is readily available in the public domain. There were no particular difficulties encountered and there is no reason to consider that there is any serious risk of error attaching to plans and projections for the treatment of wastes to be generated in the proposed development/existing farm.

**Summary**

The proposal as outlined will make a significant positive contribution to the rural economy of Co. Offaly. It will serve to increase employment in the locality, and help secure the viability of the applicant's existing farming activities and that of their feed suppliers, equipment suppliers etc., and other such dependant businesses, including the related pig processing activities operated by Rosderra Meats. Simultaneously, it will integrate seamlessly with the existing farming activities carried out by the customer farmers to the mutual benefit of both, in an environmentally friendly and sustainable manner.

The new farm buildings will integrate successfully with their surroundings and will not give rise to any significant environmental effects. The provision of modern pig accommodation and improved manure storage facilities, with leak detection facilities and storm water attenuation measures, should be seen as a positive development and an improvement in the attributes of the existing farm.

The granting of permission to the proposed development would strongly accord with the provisions of the County Development Plan and will provide a significant boost to the economy of Co. Offaly. The proposed development will operate under the conditions imposed as part of any grant of planning permission and revised EPA Licence for this farm.

**Signed:**  
**Paraic Fay**

BAgrSc

**Date**

16/12/14

**Barbara Olwill**

MRUP BAgrSc Dip EIA/SEA Mgmt

**Date**

16/12/14

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## 2. INTRODUCTION

### 2.1 National Policy

The development of the pig meat industry is supported by government policy aimed at increasing the value of the export market. The Irish pig meat industry has achieved major success from the mid 1980's onwards in the development of an internationally competitive export orientated pig meat industry in Ireland. This progress was achieved with major rationalisation of the Irish Pig Industry with a reduced number of farmers with a larger number of animals, resulting in the pig industry becoming the most market led industry in Irish Agriculture.

On a national scale the pig industry represented almost 6% of gross output at producer prices in 2012 with a value of €423 million. When account is taken of added value at processing level, the sector has a total value of around €650 million, of this total, exports amounted to some €525 million in 2013. Ireland represents less than 1.1% of EU (27) production (2013). This enterprise conforms to Irish national policy on the pig industry based on the Development Plan for the Irish Pig Industry announced by the Minister for Agriculture and Food on the 10<sup>th</sup> of July 1987, the Pig Production Group Report of 1988 and the Pig Industry in Ireland, Strategic Study, 2000. The pig industry in Ireland has been through a number of tough economic years. On an island basis it is essential that the present level of production is at least maintained, as a critical mass of circa. three million pigs per annum is essential for the efficiency of the few processing plants remaining.

According to the Food Harvest 2020 report, pigmeat consumption worldwide is expected to grow steadily between now and 2020. This report details that it is government policy to target a 50% increase in pig meat production/exports. This expansion in the pig industry is best suited to tillage areas and/or other areas with a low intensity of pig production, such as the current site. This report also confirms that while the number of farmers producing pigs is expected to decrease over this period, the farm size is likely to increase.

County Offaly is known for its variation in land types that has supported a wide variety of farming types. Agriculture has traditionally been the most important contributor to the rural economy of Co. Offaly. While it is now providing less employment, it still remains important as a significant source of income and employment in rural areas. Intensive farming activities have not established in Co. Offaly to the same extent as other Counties such as Cork, Cavan and Monaghan. This trend is slowly changing due to a number of factors including;

- The reduction in employment in other areas of the economy.
- The reduction in land values which has facilitated farmers entering the market again.
- Growing environmental pressure on the traditional areas of intensive agriculture. This has encouraged farmers to look at developing pig/poultry farms outside of the traditional areas where there is a greater available land area for organic fertiliser as opposed to the more traditional practices of transporting it over long distances.

- The health status of the farm is improved/maintained by locating the proposed development in an area of less intensive pig production.

Agriculture is the mainstay of the local economy, and the county has a well organised agri-business sector. Nationally in excess of 7,500 jobs directly dependant on the pig industry. This industry also provides a source of organic fertilisers for farmers in the area. Due to the ever increasing costs associated with chemical fertiliser, organic manures such as pig manure are becoming ever more sought after by tillage/livestock farmers in order to reduce their fertiliser costs.

This Environmental Impact Statement and associated planning application represents a proposed modernisation of an existing c. 550 Sow integrated pig farm. The current proposal seeks to provide replacement pig accommodation, and consolidate the operation of this farm as a c. 1,250 sow breeding pig farm.

The goal of the development is to establish a modern purpose designed pig farm that will operate to the highest environmental and welfare standards while at the same time providing a reasonable return for the applicant. This proposed development will improve animal welfare on the farm, ensuring that the pig farm operates in accordance with Bord Bia quality assurance standards and animal welfare regulations. It will also improve the quality and quantity of manure storage capacity on the farm.

Within the pig industry, the trend is towards larger scale pig farms reflecting,

- 1) The concentration of resources in terms of skilled labour and capital,
- 2) Domestic and more increasingly international welfare standards, and,
- 3) Economies of scale.

Due to rising input costs, additional environmental and welfare requirements and the reduction in pig prices (in real terms) Irish pig farmers need to improve efficiencies wherever possible. Irish producers are amongst the top producers in the E.U. in terms of pig numbers per sow. However carcass weight is still lower than most of our competitors. There is room to increase efficiencies in this area, through small improvements in genetics, quality and quantity of housing, and slaughter weights etc.

### **2.1.1 Rosderra Farms and Rosderra Irish Meats Group.**

Rosderra Irish Meats Group is the largest pork processing company in Ireland. They handle approximately 50% of the pigs produced in The Republic of Ireland. They operate two state-of-the-art slaughtering and processing facilities at Edenderry, Co. Offaly and Roscrea, Co. Tipperary, both located c. 30 – 35 km's from the farm. In addition to the above Rosderra Irish Meats Group also have a Speciality Meat Ingredients facility in Clara, Co. Offaly, a Pork-Curing facility in Jamestown Co. Leitrim, and a Cooked Meats facility in Stradone, Co. Cavan.

As the leading supplier of Irish pork and bacon products, the origin and standards of pig production and supply to their factories is of the utmost importance.

At Rosderra Irish Meats Group, it is their primary focus to ensure that all animals supplied are:

- Born and reared in Ireland
- From farms participating in the National DNA trace-back scheme
- From National Registered Farms
- Certified under the Bord Bia Farm Assurance Scheme only
- Approved under the Rosderra Quality Pig Grid for animal welfare, husbandry, bio security, healthcare and structures

Rosderra Irish Meats Group is an integrated business, with a number of their own pig farms (including the current application site(s)) strategically placed close to their plants which form the cornerstone of their supply base. From this supply network of quality pig meat, they produce an extensive range of fresh, frozen and cured pork products.

Rosderra Farms is a leading supplier to Rosderra Irish Meats Group. Through their extensive network of owned farms, they apply the latest advances in genetics and pig husbandry that will assist them to continuously improve the quality of their end-products. Their highly-experienced staff ensure that all new technologies are validated in-house before being recommended to the wider supplier network.

## 2.2 Context

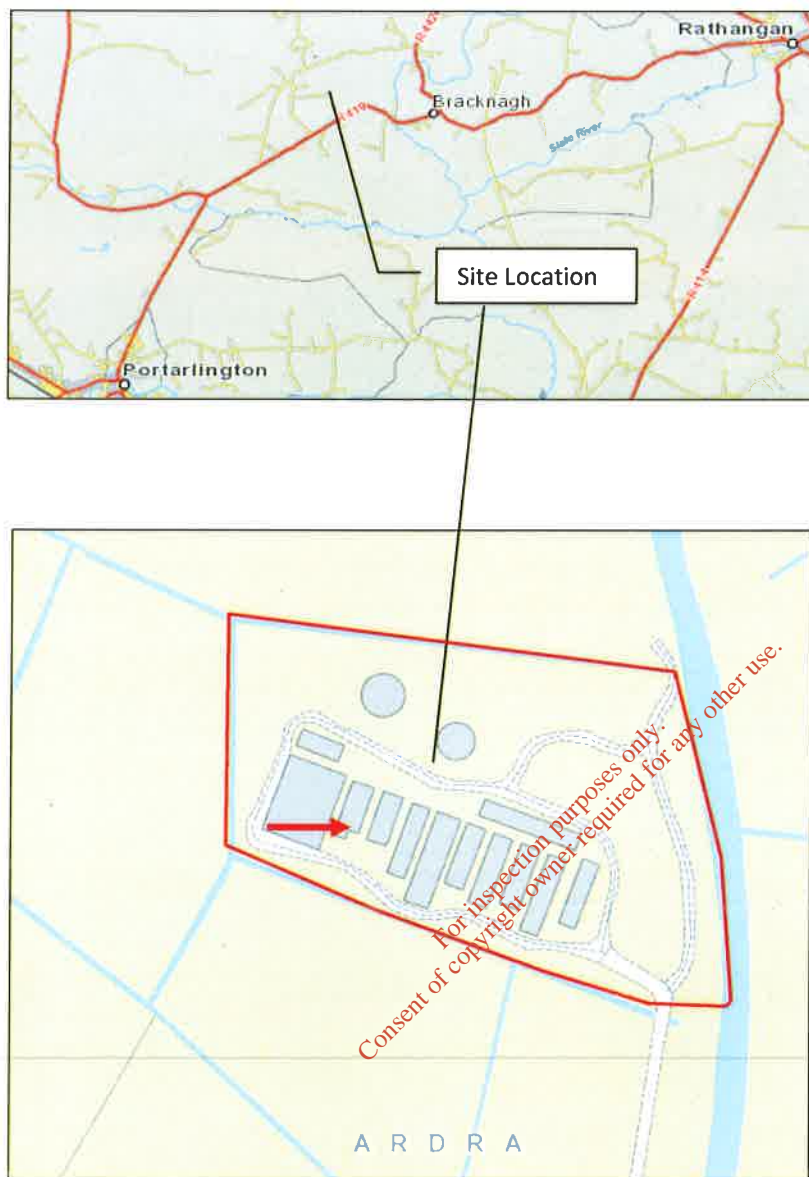
This Environmental Impact Statement was prepared by C.L.W. Environmental Planners Ltd., in conjunction with a planning application to Offaly County Council for permission to construct 3 No. new pig houses along with all ancillary structures and associated site works on the site of an existing pig farming enterprise located at Ardra, Bracknagh, Co. Offaly. As part of the proposed development it is also intended to change the production system from an integrated unit to a breeding only unit. There will be no intensification of overall activities as a result of this change.

This farm currently operates under a Licence from the E.P.A. (Reg. No P0614-01) (Class 6 - Intensive Agriculture), as required for all pig and poultry farms over the relevant thresholds. This licence will have to be reviewed to accommodate the proposed developments. This process will be developed with the E.P.A. upon receipt of planning permission from Offaly Co. Co.

Rosderra Farms **propose** to complete the following works on this existing pig farm:

- a) demolish 10 No. Existing pig houses, and,
  - b) construct 2 No. Pig Houses, and, extensions to two No. existing structures to form pig house No. 3,
- along with all ancillary structures (to include meal storage bins, storage tanks, stormwater attenuation tank.) and all associated site works on the site of an existing pig farming enterprise located at Ardra, Bracknagh, Co. Offaly. (National Grid Reference: E 259459 N 218316).

Figure 2.1 Site Location



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The proposed developments will be located on the site of, and/or adjacent to the existing/approved pig farm, and as highlighted on the accompanying drawings.

The proposed revision to the planned operation of this farm is required to, allow for a specialisation of production on this farm, optimise the return from the skilled labour on the farm and to operate a higher health system whereby the finisher pigs are moved to alternative accommodation off-site. The Bracknagh Pig Farm will be used to supply pigs to alternative finishing accommodation as opposed to rearing them to marked weight on the farm, as per the current proposed operation.

These proposals are being sought to,

- Ensure compliance with animal welfare recommendations with regard to stocking densities etc.
- Provide adequate space in order to rear pigs to a suitable weight for transfer to specialised pig finishing accommodation.
- Improve the health status of the pig herd by allowing time for a batch type production system (i.e. all in/all out) and weekly routine washing procedures in the finisher accommodation.
- Increase the sow numbers on this farm so as to ensure that maximum benefit is obtained from the skilled labour therein.
- Improve the quality of buildings and ancillary structures on the farm so as to ensure that pig production at this farm is carried out in an economically/financially viable fashion and in an environmentally friendly manner well into the next decade.
- Reduce manual labour requirement and make stockmanship the key to efficient welfare conscious production.

This Environmental Impact Statement (E.I.S.) has been prepared in connection with European Communities Directive 85/337/EC as amended by 97/11/EC and 2003/35/EC, as implemented in Ireland by S.I. 349 of 1989, and now referred to as European Communities (E.I.A.) Regulations 1999 – 2001, as amended by S.I. 659 of 2006 European Communities (E.I.A.) (Amendment) Regulations 2006, the Local Government Planning and Development Acts 2000 to 2013, Planning and Development Regulations 2001 – 2013, and the Protection of the Environment Bill 2003.

## 2.3 Farm Background

Pig farming activities have been carried out on this farm for in excess of 20-25 years. This is one of the number of farms operated by the Rosderra group which provide an important supply of pigs to the Rosderra processing Plants in Edenderry and Roscrea.

The existing work force available to the farm has in excess of 20 years' experience working within the Pig industry. Rosderra Farms operate a continuous program of staff development and training. Staff members have completed The Teagasc Pig Management course and additional Teagasc professional development courses in Manure Management and Animal Welfare. This skilled workforce is further complemented by the experience from the wider Rosderra Farms and Rosderra Irish Meats group.

Rosderra Farms consistently operates their pig farm in a manner that is,

1. Beneficial to the local community in terms of direct employment (office and pig farm staff, advisors and consultants) and indirect employment (animal feed and pig processing industries, agricultural contractors, haulage contractors), local farmers also benefit from free fertiliser nutrients; and,
2. Without adverse impact on the local environment.



### 2.3.1 Planning/Licensing History

The subject site is an existing pig production facility and the existing farm has developed over a period of c. 25 years. Site Location Maps are contained in Figure 2.1 and Appendix No. 2.

A number of planning applications have been granted by Offaly County Council on the subject site, and a Licence has also been granted by the Environmental Protection Agency and these are summarised as follows:

Ref. no.	Development Description	Decision
88/272	PIG PRODUCTION UNIT AND NEW SEPTIC TANK	Granted 28 <sup>th</sup> February 1989
92/205	RETENTION OF PIG REARING AND FATTENING UNIT	Granted 14 <sup>th</sup> July 1994
95/275	RETENTION OF PIG FARM, ALTER UNITS C AND D TO A SLATTED SYSTEM AND PROVIDE ADDITIONAL WASTE STORAGE	Granted 24 <sup>th</sup> January 1996
P0614-01	IPPC LICENCE FOR A 550 SOW INTEGRATED PIG FARM	Granted 21 <sup>st</sup> November 2003

### 2.3.2 E.P.A. Licence

A licence was granted by the E.P.A. to Glanbia Farms Ltd. on 21<sup>st</sup> November 2003, Reg. No. P0614-01. This licence has since transferred to the current operator Rosderra Farms. A copy of the licence is contained in Appendix No. 6. This licence details the maximum stock numbers on the farm, and is the licence under which the existing farm currently operates, as follows,

<b>Schedule 1(i) Animal Numbers Housed at the Facility Animal Class</b>	<b>Numbers</b>
<b>Farrowing/Suckling Sows</b>	<b>110</b>
<b>Dry Sows</b>	<b>440</b>
<b>Maiden Gilts</b>	<b>100</b>
<b>Boars</b>	<b>15</b>
<b>Weaners</b>	<b>1900</b>
<b>Finishers</b>	<b>3000</b>

Note 1: This excludes suckling pigs maintained on site.

Note 2: The Agency may accept a 5% increase in the number of finishers for a period not exceeding 4 weeks twice annually. Any other variation in these numbers requires prior written agreement from the Agency.

## 2.4 County Offaly Development Plan, 2014 - 2020

The County Development Plan is the central document of the planning system and sets out the Local Authorities view of the future development of the county. The current development plan was being reviewed during the completion of this E.I.S. and both the 2009 – 2014 and 2014 – 2020 development plans have been consulted.

The strategy of the county development plan is based around facilitating the economic development of the county while conserving the natural and built environment of the county and improvement of its physical infrastructure. County Offaly is known for its variation in land types that has supported a wide variety of farming types. Agriculture has traditionally been the most important contributor to the rural economy of Co. Offaly. While it is now providing less employment, it still remains important as a significant source of income and employment in rural areas. It is the objective of the planning authority to ensure that development in rural areas is located and designed so that it is not visually detrimental.

The agriculture sector is a significant source of economic activity throughout the county, it contributes to exports, provides the raw materials for the food processing industry and has potential for providing more added value in the artisan food sector. It is Council policy to capitalise on the potential for the growth in food processing in the county.

This proposed development is located in a rural agricultural area, where such developments are to be facilitated by the local authority, and it is not located near any scenic walks or viewing points. The location of the proposed site, integrated into the surrounding landscape and replacing a significant proportion of the existing building complex, will ensure that this proposed development is incorporated into the local environment, with no adverse visual impact. The county development plan recognises the fact that the development of agriculture in the county may require changes to existing farmyards and the need for new buildings on Greenfield sites. The Council will take a positive approach to applications for agricultural developments generally, subject to the protection of groundwaters, residential amenities, designated habitats and the landscape.

The location of this proposed development on an existing pig farm is a significant benefit and advantage to the site due to the fact that;

1. It is serviced by good infrastructure,
2. It is located well away from any noise/odour sensitive areas and/or any environmentally sensitive areas or protected views.
3. It is located well away from residential areas and dwelling houses,
4. It is located in an area where agriculture is the main activity.

It is felt by the applicant that the proposed development satisfies the requirements of Offaly Co. Co. as per **the policies on Agriculture/Rural Development** as outlined in the County Development Plan 2014 – 2020, detailed below;

**RDP-01** It is Council policy to support the development of agriculture where it is compatible with the sustainable development of the county and commensurate with sustaining the farming community.

- RDP-02** It is Council policy to encourage the development of alternative rural based small-scale enterprises. The Council will consider the use, nature and scale of developments when assessing such applications. In addition, the Council will also consider the requirement to locate such developments in rural areas.
- RDP-03** It is Council policy to favourably consider proposals for the expansion of existing industrial or new business enterprise in the countryside where the proposal is;
- a) an appropriate size and scale,
  - b) does not negatively impact on the character and amenity of the surrounding area, and
  - c) has regard to and complies with other guidelines/standards including traffic, noise and environmental considerations.
- This policy will generally relate to enterprises which are rural resource based and which have the potential to strengthen rural areas.
- RDP-04** It is Council policy that the development of small rural enterprises and craft industries in rural areas will, in general be encouraged, subject to compliance with normal planning requirements.
- RDP-05** It is Council policy to encourage the development of environmentally sustainable practices, particularly agriculture, to ensure that development does not impinge on the visual amenity of the countryside and that watercourses, wildlife habitats and areas of ecological importance are protected from the threat of pollution.
- RDP-06** It is Council policy to consider favourably proposals for on-farm based diversification, which is complementary to the agricultural operation on the farm, the biodiversity supported by the farm and is operated as part of the farm holding.
- RDP-07** It is Council policy to support those who live and work in rural areas and who wish to remain on the land holding and accordingly the Council will favourably consider rural diversification intended to supplement farm income such as
- Specialist farming practices e.g. flower growing, equine facilities, poultry, mushroom growing, and specialised animal breeding.
  - Farm enterprises such as processing, co-ops, farm supply stores and agri-business.
  - The production of organic and specialty foods to meet the increase in demand for such products.
  - The conversion of redundant farm buildings of vernacular importance for appropriate owner-run enterprises, as a way of supporting a viable rural community, subject to the proper planning and sustainable development of the area.
- RDP-11** It is Council policy to encourage expansion and employment in industries such as agriculture, horticulture, forestry, peatlands, food, crafts, tourism and energy.
- RDP-15** It is Council policy to ensure that agricultural developments are designed and constructed in a manner that will ensure that watercourses and sources of potable water are protected from the threat of pollution in line with Water Quality Regulations and the requirements of the Water Framework Directive.

- RDP-16** It is Council policy to continue to protect existing resource based industry from encroachment by residential development, for example mining, quarrying, gravel pits, peat extraction and intensive agriculture.
- RDP-18** It is Council policy to have a positive presumption to developments that seek to provide added value in the food sector, including processing and servicing, subject to the relevant environmental considerations. The Council support the development of the artisan food sector.

The proposed development also satisfies Offaly Co. Co.'s stated aim with regard to Rural Development in that it will help "To achieve a high standard quality of life for rural communities in the county where local growth is facilitated, local rural communities are strengthened and consolidated where appropriate, agriculture is supported and the diversification of the rural economy is encouraged."

The objectives identified that relate to and are satisfied by the proposed development include;

- RDO-01 It is an objective of the Council to support agricultural development and encourage the continuation of agriculture as a contributory means of maintaining population in the rural area and sustaining the rural economy.**
- RDO-04 It is an objective of the Council to ensure that all agricultural activities adhere to any legislation on water quality and biodiversity e.g. Phosphorus Regulations, Water Framework Directive, Nitrates Directive and Habitats Directive.**

These agricultural and rural development plan policies recognise the important and varied role of agriculture within the economy of Co. Offaly.

These policies serve to recognise and support development proposals that will enable farming to become more competitive, sustainable, environmentally and welfare friendly; adapt to new and changing markets; diversify into new agricultural opportunities; and broaden their operations to "add value" to their primary produce, while at the same time protecting the environmental and cultural heritage of the County.

The proposed development of additional pig housing;

- in a secluded rural area,
- on an existing pig farm site,
- significantly removed from any neighbouring dwellings and/or population centres,
- located away from any designated areas and/or tourist attractions.
- well integrated into the local environment with sympathetic design and layout,
- with proper measures in place for the storage and removal of wastes off site,
- with all organic fertiliser from farm to be utilised as organic fertiliser on local farmlands to replace imported chemical fertiliser,

will help to ensure that the proposed development will be in accordance with the stated plans and objectives of Offaly Co. Co. as outlined in the county development plan, and will improve the attributes and performance of this existing pig farm site..

## 2.5 EIA Team, Organisations and Bodies Consulted

This Environmental Impact Assessment of the proposed development has been carried out on behalf of the Applicant by CLW Environmental Planners. CLW have extensive experience in Environmental Assessment with a particular focus on the intensive agricultural sector and have been carrying out EIA for in excess of 15 years. The team involved in this EIA comprised:

<b>EIA Team Members</b>	<b>Organisation</b>
<b>Paraic Fay</b> <i>BAgrSc</i>	CLW Environmental Planners (EIA Coordinator)
<b>Barbara Olwill</b> <i>MRUP BAgrSc Dip EIA/SEA Mgmt MIPI</i>	CLW Environmental Planners
<b>Oliver Leddy</b> <i>BAgrSc</i>	CLW Environmental Planners
<b>Shane Carroll</b> <i>Dip Building &amp; Services Engineering</i>	Carroll Design & Surveying Ltd.
<b>Noreen McLoughlin</b> <i>MSc MCIEEM</i>	Whitehill Environmental
<b>P McShane</b> <i>BEEng(Hons) MIEI</i>	IE Consulting
<b>L McMillan</b> <i>BEEng MIEI</i>	IE Consulting
<b>J Keohane</b> <i>MSc BSc(Hons) CGeol MIEI FCIWEM</i>	IE Consulting
<b>J Brady</b>	Rosderra Irish Meath

The scoping exercise for this E.I.S. was carried out in consultation with Offaly Co. Council, C.L.W. Environmental Planners Ltd. and Rosderra Farms.

Other organisations and bodies consulted directly/indirectly include:

- Geological Survey of Ireland
- NPWS (National Parks and Wildlife Service)
- Environmental Protection Agency.
- Met Eireann
- Department of Agriculture, Food and The Marine
- Department of Environment.
- Teagasc
- Irish Farmers Association (I.F.A.)
- Bord Na Mona Environmental Consultancy Division
- Rosderra Irish Meats.



## 2.6 References / Publications Consulted

The following references, among others were consulted when compiling this Environmental Impact Statement:

- Advice Notes on Current Practice in the preparation of Environmental Impact Statements
- Agri-Environmental Specifications for R.E.P.S. 2000, *Department of Agriculture, Food and Rural Development*.
- Centralised Anaerobic Digestion in County Cavan, Feasibility Study, *C.L.W. Environmental Planners Ltd. December 2000*.
- Code of Good Agricultural Practice to Protect Waters from Pollution by Nitrates, *Dept. of Agriculture Food and Forestry (D.A.F.F.) and Dept. of Environment (D.o.E.)*
- County Offaly Development Plan (2009 - 2015)
- County Offaly Development Plan (2014 - 2020)
- European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2010(SI No. 31 of 2014).
- European Communities (Welfare of Farmed Animals) Regulations 2010 (SI No. 311 of 2010).
- Explanatory Bulletin to the Soil Map of Ireland, *Teagasc 1980*.
- Food Harvest 2020, Department of Agriculture, Food and the Marine.
- Guidelines on the information to be contained in Environmental Impact Statements.
- Integrated Pollution Prevention and Control (IPPC) Reference Document on Best Available Techniques for Intensive Rearing of Poultry and Pigs. – July 2003
- Protecting our Freshwaters, Nutrient Management Planning Guidelines for Local Authorities, *Dept. of Environment and Local Government*.
- Protection of the Environment Bill 2003.
- Suitable Development, A Strategy for Ireland, *Department of Environment*
- *Teagasc, Nutrient and Trace element Advice for Grassland, Tillage, Vegetable and Fruit Crops - 2<sup>nd</sup> Edition 2004*.
- [www.agriculture.gov.ie](http://www.agriculture.gov.ie)
- [www.archaeology.ie](http://www.archaeology.ie)
- [www.bordbia.ie](http://www.bordbia.ie)
- [www.epa.ie/](http://www.epa.ie/)
- [www.gsi.ie](http://www.gsi.ie)
- [www.offalycoco.ie](http://www.offalycoco.ie)
- Teagasc Soils of Co. Offaly

### 3. DESCRIPTION OF DEVELOPMENT

This proposed farm development(s) will ensure that a high standard of animal welfare and environmental protection are achieved by this farm enterprise. The proposed development of pig accommodation will be built to exacting Department of Agriculture specifications, and will further improve standards on this farm. The farm is situated in a rural location where agriculture is the main industry. The site, which is not visible from any major road or housing complex, will be well landscaped to screen the pig farm from view. The pig farm buildings are, and will be, well integrated into the site.

This pig farm is located in the town land of Ardra, on c. 4 Ha of land owned by the applicant.

#### 3.1 Objective of this development

The objective of this planning application is to ensure that this farm can operate productively and economically into the future and in line with Offaly Co. Co., E.P.A. and Department of Agriculture requirements, and environmental and animal welfare regulations. This farm as currently approved would have operated as a 550 sow integrated pig farm, however the current application to re-develop the pig accommodation on-site seeks to revise this so that the farm can operate as a specialised 1,250 sow breeding farm.

While the proposed development on site will mean significant infrastructural change, this is required to achieve the main objective to modernise the farm and to ensure that it operates to the highest environmental and welfare standards. The proposed infrastructural change is required regardless of the changes to the planned operation of the farm (i.e. change from an integrated to a breeding farm), as a result of enhanced animal welfare and environmental regulations.

The secondary objective of the currently proposed development, which fits in with overall objectives and strategies within the Rosderra Group, is to allow for the conversion of this existing approved farm from an integrated pig farm, to a specialised pig breeding farm with satisfactory accommodation to breed and rear pigs to an average weight of c. 35kg's in line with current animal welfare regulations, and to make provision for the required washing routines and all in/all out production system.

At a time in the Irish pig industry when margins are extremely tight it is essential that every pig farm is run and managed as efficiently as possible. This is achieved with the efficient use of inputs and optimising animal performance.

In the assessment of any impact from this proposed revision it is essential to remember that while the type/stage of pig, and the management practices on site will change as a result of this proposed development, there will be no significant change in the intensification of activities on the farm and / or manure production. Indeed due to expected efficiencies in production, improvements in infrastructure and improvements in the operation of the farm, any potential impacts should be positive.

In addition, Rosderra Farms are committed to implementing a significant array of measures such as c. 19 months storage capacity (increasing from c. 6 months capacity

including stormwater attenuation proposals, flood risk mitigation measures, underground leak detection facilities, surface, ground water and leak detection monitoring and landscaping etc. to help mitigate against any potential and/or perceived potential adverse impact from the proposed development. In addition to the above this site will be subject to a review of the existing licence granted by the E.P.A. to accommodate the proposed infrastructural and operational changes.

It is anticipated that the proposed development will improve the efficiency and thus the economic viability of this existing farm by,

- Improving the performance of the breeding herd and the performance of pigs from birth to transfer off-site at c. 35kg's. This increased performance will be as a result of improved health and housing conditions. This will also have the effect of increasing the feed efficiency of the pigs, thus less feed will be consumed and less slurry produced/unit of pig meat. The improved health status will also result in reduced medication needs and associated waste.
- Mortality rates should be reduced, thus reducing the amount of animal and tissue waste.
- The facility to concentrate and specialise the production system on the farm will result in the more efficient use of labour and machinery, as these resources would be determined by the applicant to not be fully utilised at present.
- Modernisation of the farm will facilitate improvements in energy, water and feed usage per pig produced.

The existing farm has been operating without any adverse impact on the surrounding environment, and without any complaints being received by the current operators.

The buildings submitted for planning permission are slatted floor pig houses with mass concrete storage tanks underneath. These tanks will be constructed in line with the Department of Agriculture, Food and the Marine standards for such structures, and will have leak detection systems underneath. This development will improve the quality of the building stock on the farm and increase the capacity of slurry storage structures. It is anticipated that the proposed development will improve the efficiency and thus the economic viability of this farm by,

- Ensuring that this farm can comply with incoming animal welfare regulations with regard to minimum space requirements.
- Improving the quality of housing on the farm and affording the opportunity to develop a new 1,250 sow breeding unit, thus ensuring that the applicant is in a position to optimise layout, facilities etc.
- Allow this farm to operate as a specialised pig breeding farm.

Rosderra Farms **propose** to complete the following works on this existing pig farm:

- a) demolish 10 No. Existing pig houses, and,
  - b) construct 2 No. Pig Houses, and, extensions to two No. existing structures to form pig house No. 3,
- along with all ancillary structures (to include meal storage bins, storage tanks, stormwater attenuation tank.) and all associated site works on the site of an existing pig farming enterprise located at Ardra, Bracknagh, Co. Offaly. (National Grid Reference: E 259459 N 218316).

These proposals are being sought to,

- Ensure compliance with animal welfare recommendations with regard to stocking densities etc.
- Provide adequate space in order to rear pigs to a suitable weight for transfer to specialised pig finishing accommodation.
- Improve the health status of the pig herd by allowing time for a batch type production system (i.e. all in/all out) and weekly routine washing procedures in the finisher accommodation.
- Increase the sow numbers on this farm so as to ensure that maximum benefit is obtained from the skilled labour therein.
- Improve the quality of buildings and ancillary structures on the farm so as to ensure that pig production at this farm is carried out in an economically/financially viable fashion and in an environmentally friendly manner well into the next decade.
- Reduce manual labour requirement and make stockmanship the key to efficient welfare conscious production.
- Reduce energy, water and feed usage per pig produced.

### 3.2 Size and Scale of the Development

The following details should be read in conjunction with the engineer's drawings provided in Appendix No. 2, 3 & 4. Appendix No. 2 contains a site location map(s) (1:2,500 + 1:50,000). Appendix No. 3 contains a site layout plan, cross-sections, plans and elevations of the structures for which planning permission is sought and Appendix 4 contains details of the structures to be demolished.

The proposed development is situated on the site of, and/or adjacent to, the existing pig farm facility, and site of the previously approved development. The proposed development seeks permission to construct 3 No. new pig houses along with all ancillary structures and associated site works arising from the proposed development. Ancillary structures on site may/will include but are not limited to; feed silos, over ground storage tanks, diesel storage tank(s), water storage tanks etc.

Upon completion of the proposed development, pig production at any one time will comprise of the following average stock levels:

- 1,250 Sows
- Plus all progeny to c. 35kg's
- Plus replacement breeding stock, to include maiden gilts, served gilts and boars.

Stock numbers on-site may vary +/- 10% on occasion.

**Figure 3.1 Site Plan Showing Existing and Proposed Development**  
(Next Page)

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### 3.3 Operation of the Farm

#### Operating Hours

Staff operating hours are/will be primarily 08.00 to 18.00 Monday to Friday and 08.00 to 13.00 on Saturday and Sunday, however automatic feeding and ventilation systems will be operating outside of these hours. This farm is operated in such a way that only essential activities are carried on outside of these hours. The pig farm manager/owner will be available at all times should any emergency arise regarding this farm and will retain overall responsibility for the day to day running of the farm.

#### 3.3.1 Production

This proposed 1,250 sow breeding farm will produce weaner pigs at circa. 35 kg live-weight intended for sale/transfer to a specialised pig finishing accommodation. Pigs will be born and reared on this farm to c. 35kg's and from there they will be transferred to the finishing farm. In order to ensure that the maximum performance is achieved from this farm with the minimal amount of inputs significant attention is paid to the genetics of the pigs produced. The programme carried out on this proposed breeding farm will ensure that only pigs with the top performance in terms of growth rate and feed efficiency are produced.

High health status is, and will remain, a priority on this unit. The management team will be highly trained and experienced and this will be complemented with additional personnel once the proposed development has been completed. All in – all out movement of pigs is/will be practised on this farm. Each age group of pigs have a different level of immunity and even in high health status herds it is important not to mix pigs of different age groups. Hygiene routines are carefully planned and monitored. The rooms are/will be carefully washed and rested between batches.

The applicant is committed to providing a system on-site that ensures adequate time for cleaning and resting the rooms between batches. One of the objectives of the proposed development is to allow improvements to this hygiene and washing routine. The extra accommodation will mean that there is more time allowed between emptying the farrowing / weaner accommodation and re-filling of these rooms with the next batch of pigs. This will allow more comprehensive washing, cleaning and drying out. The proposed development has been designed to facilitate this improved hygiene and washing routine at the proposed stock levels. Pens will be adequately soaked prior to washing to reduce water and energy usage associated with this practice.

#### 3.3.2 Feeding

Pigs will be fed with wet/dry feeders and/or a computerised feeding system. Water is supplied to the pigs via water nipples in these feeders. Feed per pig is calculated on an average feed consumption on the farm on an annual basis divided by the number of sows on the farm giving a figure of c. 2 – 2.25 tonnes/sow. Total Feed Consumption/annum after the proposed development is estimated at circa. 54T. Feed/week. Feed to this farm is currently supplied to the farm by Glanbia Feeds.

### 3.3.3 Water supply and use.

Water is, and will be, supplied from the on-site well and will be stored in an over-ground water storage tank(s) with a capacity of c. 60 m<sup>3</sup>. At present this storage capacity allows almost 2 days supply. The water used per annum will equal, circa 10,000 – 12,000 m<sup>3</sup>. All animal drinking appliances are regularly maintained to ensure that there is no leakage to the slurry storage structures. There is also the potential opportunity to connect to the local public/group water supply which is located at the entrance to the site.

Water on this pig farm is used for the following:

- (a) ***Drinking water for livestock.***
- (b) ***High pressure wash down systems (3,000 psi)***  
The farrowing and weaner houses are proposed to be washed after each batch, as the pigs are moved in an “all in / all out” system through their growth cycle. The pressure of the power washer is c. 3,000 psi. Water throughput per hour = c. 1.08 m<sup>3</sup>. The power washer will be in use for 12/16 hours per week. A weekly total of c.14 m<sup>3</sup> of water will be required.
- (c) ***Water for W.C., canteen etc.***

### 3.3.4 Heating and Ventilation

Energy supply to the farm will be an electric 3-phase supply @ 220 and 380 volts.

#### (a) Heating

***Farrowing House:*** - The piglets will be born into an environment of 20 - 24 degrees centigrade but require a temperature of > 30 degrees centigrade. This will be supplied by under floor heating with heat pads. Weaker pigs may receive extra and beneficial heat from an infrared lamp, hung over them.

***1<sup>st</sup> Stage Weaner House:*** - These rooms are to be artificially heated with electric heaters. The floors are to be slatted with plastic slats. The air temperature and freshness is climatically controlled by sensors and computers.

***2<sup>nd</sup> Stage Weaner House:*** - These rooms will receive no artificial heating. The floors are slatted, and the air temperature and freshness is climatically controlled by sensors and computers.

***Gilt/Sow Houses:*** - These houses will receive no artificial heating. All new houses are to be totally slatted.

#### (b) Ventilation

All ventilation on this farm is/will be Computer controlled mechanical ventilation, or Automatically Controlled Natural Ventilation.

### 3.3.5 Housing

The proposed houses are of A roof design with a maximum height of c. 6 meters above floor/slat level. Plans of all proposed buildings are contained in Appendix No. 3 of this E.I.S. The proposed houses will be of block construction, plastered externally and constructed on top of a mass concrete manure storage tank to Department of Agriculture, Food and The Marine specifications. Roofing material will be cement fibre sheeting.

#### ***Sow/ Gilt Houses:***

Dry sows and replacement breeding stock (c. 500 gilts and 5 Boars) are to be housed in a purposely designed sow house (Proposed House No. 1) and gilt rearing area (Part of Proposed House No. 2). All sows/gilts will be housed in loose accommodation, to comply with S.I. No. 311 of 2010 (See Appendix No. 16 ).

The gilts will be brought to the farm at c. 110 kg (and/or selected from the weaner pens at c. 35kg's and moved to the gilt pens in proposed house No.2, to mature. They are vaccinated against all major-breeding diseases. At 140 kg they are moved to the service area (In proposed House No. 1) and enter the breeding herd.

The farrowing sows are housed in the in the purposely designed farrowing house (Proposed House No. 2).

#### ***Weaner Houses:***

There will be c. 750 pigs weaned weekly at an average of 28 days of age. These are stocked at stocking rates of 0.25 m<sup>2</sup> per pig. As the pigs get older the numbers per pen are reduced and the area allowed per pig increases up to 0.41m<sup>2</sup>/pig. There is c. 9 weeks accommodation here in total between heated first stage and unheated second stage weaner accommodation. All 1<sup>st</sup> stage weaner pigs are to be housed in the new weaner house (Proposed House No. 2) with 2<sup>nd</sup> Stage pigs to be housed in house No. 3.

Sufficient space has been proposed to be provided to allow for the washing and drying routines to be carried out, and to provide a number of isolation/recovery pens for any sick/injured animals.

### 3.4 Manure Storage Structures and capacities

All pigs are/will be housed in slatted houses with under house manure storage tanks. The slurry is collected directly through these slatted floors and stored in tanks located below slat level. From here the slurry can be transferred to the overground, covered manure storage tanks.

The manure storage tanks underneath the proposed developments will be of mass concrete to a specification that ensures a watertight seal. All proposed new tanks will be constructed to Department of Agriculture, Food and The Marine, S123, Minimum Specification for Bovine Livestock Units and Reinforced Tanks – March 2006, and will have leak detection systems underneath. The manure storage in the houses will be complimented with the 2 No. existing over ground manure storage tanks.

Appendix No. 3 contains a site layout, and Appendix No. 5 contains a table indicating the proposed manure storage on the farm. It also includes information showing the total manure storage capacity in each house and the net manure storage capacity in each house after the required freeboard allowance has been removed. A freeboard allowance of 200mm has been allowed on all covered underground manure storage tanks, and 300mm of uncovered tanks/passageways, in accordance with S.I. 31 of 2014, (See Appendix 17)

The slurry storage capacity on the farm will provide c. 19 months storage when the proposed development has been completed, increasing from c. 6 months capacity associated with the previously approved development.

### **3.5 Process of Production**

The production process involves breeding and rearing pigs to a proposed live weight of c. 35 Kg for sale/transfer to integrated pig farm(s),

The young are born in the farrowing rooms. Piglets remain suckling on the sows for an average of 28 days. At day 15, creep is introduced in minute quantities as the sow's milk quality begins to decrease. It is also important to build up the piglet's ability to receive solids, thus preparing them for weaning onto a diet of solid feed. The suckling period for the sow is 28 days on average. She is then weaned back into the service area where she is fed ad lib until she returns to cycle approximately 5-7 days later. Gestation period being 114-116 days, the pre-farrowing sow is moved to the farrowing rooms 6-7 days before parturition. At weaning the pigs are moved from the farrowing house aged 28 days, weighing approximately 7/8 kg, to the weaner area. The piglets remain here on a complex diet until 85 - 90 days of age. They then leave this area and move to the, gilt accommodation and/or off site at circa 35 kg.

### **3.6 Procedures of Production**

Bracknagh Pig Farm has been/will be approved under the Bord Bia approval system. The daily procedure follows/will follow the Bord Bia Code of Practice for pig welfare and consists of the following procedures:

#### *Dry Sow/Gilt House(s).*

- \* ensure all sows/gilts have adequate feed and water
- \* check health status and treat accordingly
- \* check sows/gilts returning to cycle after service

#### *Farrowing House(s).*

- \* ensure all sows have adequate feed and water
- \* check the health status of this area and treat as required.
- \* check house temperature and heat pad temperature
- \* check and record births and deaths.
- \* remove excess faeces, farrowing debris, dead and mummified pigs at the time of farrowing for hygiene purposes.
- \* manually remove all faeces at weaning to reduce water waste at power washing

***Weaner House(s).***

- \* ensure all pigs have adequate feed and water
- \* check the health status of this area.
- \* check temperature and ventilation rates
- \* check for water wastage via drinkers

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#### 4. DATA REQUIRED TO ASSESS THE EFFECTS OF THE DEVELOPMENT.

The pig farm operation will result in the production of two saleable products, 1) weaner pigs for transfer to specialised finisher accommodation, and, 2) organic fertiliser for customer farmers. In addition a number of waste streams are also generated. These may include, pig carcasses/ animal tissue waste, veterinary waste and paper bags. The quantities of the various wastes generated, their storage and their ultimate disposal are detailed in the following sections. The only remaining emission from this farm is clean storm water from roofs and yards which will be discharged, via a stormwater attenuation drainage system to the nearest watercourse(s) to mediate storm water discharges from the farm.

##### 4.1 Organic Fertiliser/Manure Production

The annual estimated production of organic fertiliser/manure from the farm is calculated in Figure 4.1.1. This estimation is based on calculations using S.I. 31 of 2014. The manure production at this farm as per the previously approved development is calculated as 11,330 m<sup>3</sup>, (as per EPA Inspectors Report June 2003) which will reduce marginally to 11,310 as a result of the proposed re-configuration.

**Figure 4.1.1 Organic Fertiliser/Manure Production**

<b>Annual Manure Production</b> (Based on previously approved numbers and detailed IN EPA Inspectors report June 2003).				
Animal Type Approved	Number	Manure Production/pig place Litres/week*		Total M3
Sows Integrated	550	-	-	11,330

<b>Estimated Annual Manure Production.</b>				
Animal Type Proposed	Number	Manure Production/sow place Litres/week*		Total M3
Sows (Breeding only )	1,250	174	52	11,310

\*Data taken from European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2014 (S.I. No. 31 of 2014)

## 4.2 Manure Storage Capacity

Details of all tank capacities and the total manure storage on the pig farm is outlined in Appendix No.5.

The net organic manure storage capacity on the farm as existing equals c. 5,363 m<sup>3</sup>, however this will increase to c. 18,000 m<sup>3</sup> once the proposed developments are completed, (almost 19 months manure production, increasing from c. 6 months capacity as per the previously approved development). This storage capacity will ensure that organic fertiliser produced on the farm is spread only under favourable soil and climatic conditions, and is well in excess of the 6 months storage as required by the Nitrates Directive (S.I. 31 of 2014) and EPA Licensing requirements.

The annual slurry produced will be 11,310 m<sup>3</sup>, (See Figure 4.1.1), a marginal reduction based on current approved operational capacity. An allowance for freeboard space, (i.e. the space between the top of the manure and the underside of the slat), of 200mm on covered tanks, and 300mm on uncovered tanks/passageways has been incorporated in these calculations. The required manure storage capacity based on S.I. 31 of 2014, is 6 months.

## 4.3 Allocation of Organic Fertiliser/ Manure

The practice of applying animal manure to agricultural farmland as a valuable source of fertiliser is a well-established practice in farming. Traditionally, a large number of farms had small numbers of pigs and all of the organic fertiliser was returned to farmland. Due to economics and specialisation of production in order to survive, pig farming has evolved to a small number of farms with a large number of pigs, however the principle of returning organic fertiliser from these animals to farmland in order to utilise the nutrients contained therein still prevails. **The proposed re-development of this existing pig farm site will not result in any increase in the volume of organic fertiliser to be produced.**

Application to land is the one practical economic means of utilising the nutrients in pig manure. Organic fertiliser from this farm will be used as an alternative to imported artificial fertiliser. Manure will be allocated to those customer farmers who request a supply, and who have determined that they have a requirement for same in line with the requirements of S.I. 31 of 2014. The machinery to be used for this activity has been changed and modernised over the years to make this process more environmentally friendly. To this end all farmers are advised that manure from this development should be applied to land in as accurate and uniform a manner as is practicably possible.

All farmers will be advised that in order to minimise any potential adverse environmental impact and to ensure that they get maximum fertiliser benefit from the organic fertiliser, that all manure from this farm should be stored, managed and applied in accordance with S.I. 31 of 2014. It is intended that, where practicable, all organic fertiliser from the existing and proposed development will be transported to customers in 25m<sup>3</sup> consignments.

Pig manure is managed on site and used by customer farmers as an organic fertiliser in compliance with S.I. 31 of 2014 (ie. EC-Good Agricultural Practice for Protection of Waters Regulations). This is monitored by the Department of Agriculture, Food and the

Marine, with copies of all transfers of organic fertiliser reported on an annual basis to the Department of Agriculture, Food and the Marine, on what is referred to as a Record 3 form, as contained in Appendix No. 1.

The Applicant will supply all of the pig manure from this proposed development to local customer farmers for use on their farmlands instead of manufactured chemical fertiliser products imported from outside the state. The application of animal manure to farmland is now regulated under S.I. 31 of 2014 (ie. EC-Good Agricultural Practice for Protection of Waters Regulations) and management of manure on the site will comply with those Regulations.

The pig manure will be used by each “occupier” of each “holding” (referred to as a customer farmer) in compliance with S.I. 31 of 2014. The legislation confers rights and responsibilities on the “occupier” of a “holding”. It is clearly prescribed in Article 16 of S.I. 31 of 2014 that the responsibility for nutrient management planning is the responsibility of each occupier of a holding.

While historically the requirement to provide Nutrient Management Plans for other farmers may have been completed this arose because pig manure was considered to be a “waste” and such information was considered necessary if the Waste Management Acts were applicable. On 31st March 2011 S.I. 126 of 2011 (EC Waste Directive Regulations) was signed into Irish law. This clearly states that the Waste Management Act shall not apply to certain products particularly if they are already covered by other legislation.

Since the introduction of the EC-Good Agricultural Practice for Protection of Waters Regulations, the legal requirement for nutrient management planning rests with the customer farmer, and as such it is his responsibility to build in the use of organic fertiliser into his overall fertiliser plan for his farm.

Pig manure is an animal by-product by reference to the Animal By-products Regulations (S.I. 252 of 2008 and Regulation EC/1774/2002). The deposition of by-product pig manure on land to supply fertiliser nutrients is provided for and is controlled under the Nitrates Regulations (S.I. 31 of 2014 and Directive 91/676/EEC) is lawful use of the manure and is not a waste recovery activity. The use of pig manure from this farm on lands owned by other farmers is required to be in accordance with the terms prescribed in Fertilisers and Soil Improvers Order (S.I. 253 of 2008) and the Nitrates Regulations (S.I. 31 of 2014).

The system for the management of manure in this pig unit and for the lawful transfer of manure to customer farmers (ie occupiers of other holdings) who seek a supply from the farm is:

- Collect all manure in tanks in the manner required under S.I.31 of 2014.
- Store all manure temporarily in the tanks pending sale or supply and transfer to customers, in response to customer demand, as by-product fertiliser, as is provided for and authorised under S.I. 252 of 2008 and S.I. 253 of 2008, in the knowledge that use by customers is required to be in compliance with standards prescribed in S.I. 253 of 2008 and S.I. 31 of 2014, and
- Record all transfers of manure from the farm/holding as is required by Article 23(1)(g) in S.I. 31 of 2014, maintain the records for relevant inspectors, and submit details of such records to the Department of Agriculture, Food and The Marine as requested.

All soiled water generated on the site will be diverted to the manure storage tanks. Pig movement between houses will be on slatted passageways with manure storage tanks underneath.

The fertiliser from the farm will be allocated to customer farmers that have a need for additional fertilizer, and who request a supply from this farm. Manure production from the approved and proposed development would be the equivalent of c. 11/12 \* 25m<sup>3</sup> load/week on average during the spreading season (16<sup>th</sup> January – 14<sup>th</sup> October inclusive), as existing and upon completion of the proposed development.

Organic fertiliser from the site would be supplied for use in accordance with the Nitrates directive. In line with the requirements of, S.I. 31 of 2014, (European Communities (Good Agricultural Practice for Protection of Waters Regulations 2014) i.e The Nitrates Directive, all required information pertaining to the potential customer farmers and all other information as required by this directive will be maintained on-site and will be made available for inspection as required. Please refer to Appendix No. 1 for details of the sample record 3 form to be maintained for all manure consignments.

This organic fertiliser will replace chemical fertiliser that would otherwise have to be, and is currently being used. Due to the ever increasing costs associated with chemical fertiliser, organic manures such as pig manure are becoming ever more sought after by farmers in order to reduce their fertiliser costs. In this regard customer farmers, are keen to secure a source of organic fertiliser to fertilise their lands. This will ensure that customer farmers receive a cheaper source of fertiliser while at the same time ensuring that there is a stable and consistent market for the organic fertiliser produced in the proposed development.

The annual fertiliser value of pig manure is significant. Previously the tendency may have been to undervalue these products. However it is considered that significant benefit would arise in developing procedures whereby encouragement would be provided to fully utilise the nutrient value of animal manures as a substitute for commercial fertiliser. This is currently being driven by high/volatile commercial fertiliser prices and the realisation by farmers that locally produced organic fertilisers can provide a sustainable, valuable fertiliser source that will provide a greater range of macro and micro nutrients than that found in standard N, P, K compound/chemical fertilisers.

The proposed development actively supports this philosophy by encouraging farmers to substitute imported chemical fertilisers with organic fertilisers. Pig (and other) manures can reduce tillage/grassland production costs and improve soil structure, soil organic matter and soil organic status. The fertiliser value of 1 m<sup>3</sup> of pig manure has been estimated at €6.44, (Teagasc 2014). This would mean that the total fertiliser value to the customer farmers from the manure produced in the expanded development is in the region of c. €70,000.

#### 4.4. Location of Potential Customer Farmlands

Due to the location of this pig farm, a significant number of the potential customer farmers will be located in County Offaly. A number of additional customer farmers (or parts thereof) may be located in adjoining counties such as Kildare and Laois. In any event customer farmers will utilise the pig manure to replace imported chemical fertiliser for efficient grass (grazing and forage conservation) and/or tillage production. This is primarily an agricultural area with low population densities.

It is anticipated that any potential customer farmers within a reasonable distance from this pig farm can be supplied with organic fertiliser for use in accordance with S.I. 31 of 2014.

#### 4.5. Customer Farmers

Pig manure is managed on site and used by customer farmers as an organic fertiliser in compliance with S.I. 31 of 2014 (ie. EC-Good Agricultural Practice for Protection of Waters Regulations). This is monitored by the Department of Agriculture, Food and the Marine and records of same are to be maintained and submitted as previously detailed.

The Applicant will supply all of the pig manure from this proposed development to local customer farmers for use on their farmlands instead of manufactured chemical fertiliser products imported from outside the state. The application of animal manure to farmland is now regulated under S.I. 31 of 2014 (ie. EC-Good Agricultural Practice for Protection of Waters Regulations) and management of manure on the site will comply with those Regulations.

#### 4.6. Organic Fertiliser/Manure Application Rates

Organic fertiliser from this farm will be allocated for use in accordance with the requirements of S.I. 31 of 2014.

This will ensure utilisation of the nutrient content of the pig manure, which is as follows:

Nitrogen*	4.2 kg/m <sup>3</sup>
Phosphorous*	0.8 kg/m <sup>3</sup>

\*(S.I. 31 of 2014).

The customer farmlands will greatly benefit from receiving organic fertilisers and this will reduce the use of a significant amount of imported energy in-efficient fertiliser that would otherwise be used.

#### 4.7. Surface Water and Ground Water

Uncontaminated water from the roofs of the buildings and clean paved areas within the farm is to be collected separately and discharged to the existing and/or upgraded storm water drainage system. Roof water from the proposed pig buildings will be directed to a stormwater attenuation tank of c. 940 m<sup>3</sup>. Please refer to Appendix No. 19 for additional details in relation storm water attenuation and Flood Risk Mitigation. The applicant and/or



other appointed person will inspect these discharge points on a regular basis. Any soiled water coming off pig walkways etc. will be directed into the slurry storage tanks.

#### **4.8 Animal Carcasses and Animal Tissue Waste**

Animal carcasses/tissues arise as a result of mortalities and farrowing waste on the pig farm. While a certain level of mortality is unavoidable this is minimised due to a high health status and the provision of a high quality environment for the animals. All such waste is to be disposed of at an approved rendering plant. Temporary storage of this waste will be provided at the farm by means of a covered skip. Arrangements have been made with Waterford Proteins, for the carcasses to be disposed at their premises.

Animal carcasses will be transported by Waterford Proteins Ltd. from this farm on a weekly basis in the April to September period and on a fortnightly basis in the October to March period. Please refer to Appendix No. 7 for further information in this regard. In the event of an outbreak of a disease requiring de-stocking this will be in accordance with and controlled by Department of Agriculture supervision and Batneec Guidelines, in order to avoid any detrimental impacts on the local environment.

#### **4.9 Veterinary Waste**

Veterinary waste arises as a result of spot treatment of sick animals. This waste comprises spent veterinary products, including antibiotics and vaccinations, out of date veterinary products, needles and syringes. It is proposed that this waste will be stored in Sharp disposal bins, and that Ecosafe Systems Ltd. Unit 1A Allied Industrial Estate, Kylemore Road, Dublin 10., or other approved waste contractor, will be contracted to dispose of this material. Please refer to Appendix No.8 for details relating to same.

#### **4.10 General Waste/Fluorescent Tubes/Construction and Demolition (C&D)Wastes**

Any general or other such waste arising from paper waste or any other packaging etc., will be stored in an appropriate bin. It is proposed that this will be collected by a local approved waste disposal contractor, such as Oxigen Environmental Barnan, Rhode, Co. Offaly, and brought to an approved site for disposal/recycling. Please refer to Appendix No.9 for details relating to same. All spent fluorescent tubes etc. and/or any other wastes generated on site including all construction and demolition waste from proposed development, that is to be moved off-site, will be separated and stored in accordance with Offaly Co. Co. and E.P.A. guidelines prior to transport off site by an authorised contractor(s) for disposal/recovery at an approved disposal/recovery site.

A designated Construction and Demolition Waste Management plan will be implemented on the farm for the duration of the proposed works. Please refer to Appendix No. 18 for a copy of same.

#### 4.11 Services

##### 4.11.1. Electricity

Mains electricity exists on the farm with a three phase supply. The electricity is currently used for the following:

- Control systems for automatic feeding systems including augers, mixers and pumps.
- Power for automatic ventilation systems.
- All artificial lighting to pig housing, offices and outside yards
- Power for water pumps, etc.

##### 4.11.2. Water

Water supply currently comes from the on site well and is stored in an on-site water storage tank. Please refer to Appendix No. 10 for water quality results in relation to same.

Proposed Annual water usage= c. 10,000 – 12,000 m<sup>3</sup>/annum.

#### 4.12. Fly and Pest Control

Flies, rats and mice are carriers of some of the infections that are detrimental to pig health. In addition, rats and mice can cause considerable damage to insulation materials and accessible woodwork, thereby reducing buildings thermal efficiencies and longevity. A programme for fly control and rodent control has been implemented on this farm, in line with Bord Bia guidelines, and this will be revised to accommodate the proposed development.

#### 4.13. Sanitary Services

In line with the details contained within the Site Specific Flood Risk Assessment it has been proposed not to provide a wastewater treatment system and percolation area on-site. It has been deemed more appropriate in terms of the overall site characteristics to provide a storage tank on-site for this effluent and retain a registered contractor to remove this off-site at regular intervals.

#### 4.14. Difficulties encountered in compiling the required information

The processes and technology involved in the construction and operation of the existing and proposed developments are standard for agricultural, and in particular pig farm developments, and well understood. In addition the principles are already in practice on site with the existing development. The technical information on which to base an assessment of impact on environmental parameters is readily available in the public domain.

As this E.I.S. relates to the revision and amendment of the existing and previously approved developments, on an existing site, with minimal, if any, increase in manure volume, traffic, etc., as a result of the currently proposed development, the assessment of any potential impact is factual as well as perceived.

There were no particular difficulties encountered and there is no reason to consider that there is any serious risk of error attaching to plans and projections for the treatment of wastes to be generated in the proposed development.

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## 5. DESCRIPTION OF ALTERNATIVES

### 5.1. Alternative Sites Considered

As this E.I.S. is concerned with the re-development of a previously approved and licensed development i.e. the revision of an approved 550 sow integrated pig farm, to a 1,250 sow breeding unit, the question of an alternative site(s) does not arise, to the same extent as if the applicant were looking to develop a greenfield site. It is proposed to carry out the development on this farm so as to, improve the quality of the housing on the farm, improve environmental protection measures, animal welfare standards and efficiencies on the farm and to help ensure that this farm can remain competitive and viable.

This existing farm is described as a c.550 integrated sow enterprise located at Ardra, Bracknagh, Co. Offaly. Planning permission has been granted by Offaly Co. Co. on a number of occasions to develop this farm as it currently operates. This farm has also been granted a licence by the Environmental Protection Agency. Pig farming activities have been carried out at this site for c. 20 – 25 years. The proposed development will;

- Allow the farm to make the necessary changes and developments to completely upgrade the existing pig housing on the site, together with all ancillary structures to comply with incoming animal welfare requirements.
- Allow the farm to complete the necessary developments so as to ensure that this farm operates as a specialised 1,250 sow breeding farm. This will help to ensure that this farm can operate at a scale that will result in efficient and economical pig production.
- Provide for enhanced stormwater attenuation measures as well as additional mitigation measures such as increased storage capacity, leak detection monitoring, improved flood mitigation measures so as to minimise any potential adverse impact on the environment.

As there will be no intensification of activities on the farm all of the proposed additional mitigation measures and efficiencies will serve to minimise any potential impact and reduce same when compared to the existing activities.

This site was chosen by the applicant for the following reasons,

- Existing Pig farm located on the site.
- Suitable area within the applicant's landholding to accommodate the proposed development.
- Already owned the site and surrounding lands.
- Existing electricity supply on the farm.
- The site was in a rural location with a low density of housing in the area.

- The site had the required infrastructure such as access, water, power, already laid on.
- It was determined that this development was required to modernise the existing site and to realise the full potential of the site and the existing management/labour.
- Significant local demand for organic fertiliser from the existing farm.
- Skilled staff available at the existing site.

## **5.2. Alternative Layout and Design**

The original layout and designs were selected after alternatives were thoroughly researched with the local adviser at that time, the engineer, and the bank adviser.

The design of the proposed development to be undertaken by the applicant was researched and reviewed with the aid and guidance of the Teagasc pig development officer, the engineer and commercial pig equipment suppliers. It takes into account European Communities (Welfare of pigs) Regulations, 1995. These regulations lay down standards for the protection of pigs kept in intensive or other systems of breeding, rearing or finishing and give effect to Council Directive 91/630/EEC of 19/11/91. These standards have been further outlined in S.I. No. 311 of 2010.

The proposed pig houses are substantially similar in construction, size and finish to that previously approved by Offaly Co. Co. The proposed design, utilising the existing overground manure storage tanks also complies with BAT principles, regarding the transfer of organic fertiliser from underslat tanks to external covered storage.

## **5.3. Alternative Process's Considered**

The Teagasc pig advisory service was set up in the early eighties and Rosderra Farms used this service as an integral part of planning this proposed farm development.

The processes to be carried out in the proposed development will be similar in nature to the existing activities on the farm. Historically alternative systems of production were considered however, due to the land type and long winters outdoor pig farming was dismissed and slatted underground slurry storage was adopted in preference to straw-based English systems of production.

Organic fertiliser recycling is carried out by allocating this fertiliser to those customer farmers who request a supply from this farm in preference to the alternative chemical fertiliser. The machinery used for this activity has been changed and modernised over the years to make this process more environmentally friendly. To this end all farmers are advised that slurry tankers should be fitted with low trajectory splashplate.

There is no other satisfactory economic or environmentally friendly alternative process for commercial pig production under Irish climatic conditions.



#### **5.4. Alternative Management of By-products**

Application to land is the one practical economic means of utilising the nutrients in pig manure. Organic fertiliser from this farm will be used in the local area as an alternative to imported artificial fertiliser. The method of manure spreading proposed (i.e. low trajectory splash plate), is very practicable and should minimise odour emission from manure. Existing demand for organic fertiliser in the area is well in excess of that which would be produced by the existing and/or proposed development as observed by the applicant in practice over recent years. This has resulted in a significant economic saving on those farms that utilise it as a source of fertiliser as opposed to imported, energy demanding, chemical fertiliser, while at the same time returning additional important trace elements to the soil not provided by the chemical substitutes.

Trial work conducted by EOLAS on alternative treatment methods for pig manure was carried out in the Sheelin area (Co. Cavan) approximately 18 - 20 years ago. This project failed to establish an alternative method for manure treatment that was viable at a commercial level.

C.L.W. Environmental Planners Ltd. in their Enterprise Ireland funded feasibility study entitled, Centralised Anaerobic Digestion in County Cavan, have extensively researched alternatives to land application. This study concluded that under the economic, environmental and grants support climate at that time that there was no economic alternative to land application. It is not felt that this has changed significantly in the intervening years.

Teagasc have recently completed a study (Led by Peadar Lawlor, Teagasc, Moorepark, and presented at the Teagasc Pig Farmers Conference 2011) which looked at a number (5) of treatments/partial-treatments for pig manure and compared them to the traditional practice of utilising this organic fertiliser to fertilise land. This study concluded that, at present, there was no other viable alternative for the use of pig manure.

There is no other suitable alternative for the disposal of animal carcasses and tissue waste or veterinary waste.

## 6. Description of the Existing Environment

### 6.1 Soil and Subsoil Geology

The proposed development (i.e construction of 3 No. new pig houses and all ancillary structures and associated site works) is located north west of Bracknagh in County Offaly, on the site of the applicant's existing pig farm and ancillary facilities at Ardra, Bracknagh, Co. Offaly. The site of the proposed development and adjacent lands (c. 4 ha in total) are owned by the applicant. Please refer to Appendix No. 2, for a 1:50,000 map indicating the general location of the pig farm site, and a 1:2,500 scale site location map.

#### 6.1.1 Topographic Features and Solid Geology

##### (a) Site and immediate area.

County Offaly is situated in central Ireland and occupies an area of 1,990.29 km<sup>2</sup> (199,029 hectares). The county is bounded by Counties Kildare, Laois, Tipperary, Galway, Roscommon, Westmeath and Meath. A significant boundary is the River Shannon, which separates it from Counties Galway and Roscommon. Offaly is largely a rural county which comprises of a predominantly flat and undulating agricultural landscape coupled with a peatland landscape.

The proposed site is located north west of Bracknagh, c. 5km's from the border with Co. Laois. This area is identified as an area of Low Sensitivity in the landscape classification contained in the Offaly County Development Plan. This class largely encompasses the county's main rural and agricultural areas. These areas comprise natural enclosing features (e.g. topography, vegetation) which have the capacity to absorb a range of new development.

It is detailed in the County Development Plan that, these areas in general can absorb quite effectively, appropriately designed and located development in all categories (including: telecommunication masts and wind energy installations, afforestation and agricultural structures), and, due to the rural nature of the area, development shall be screened by appropriate natural boundaries that are sympathetic to the landscape generally, where possible.

The general topography and morphology of **County Offaly is quite varied**. It is determined to a large extent by the underlying geology. Topographically the county can be divided into three zones:

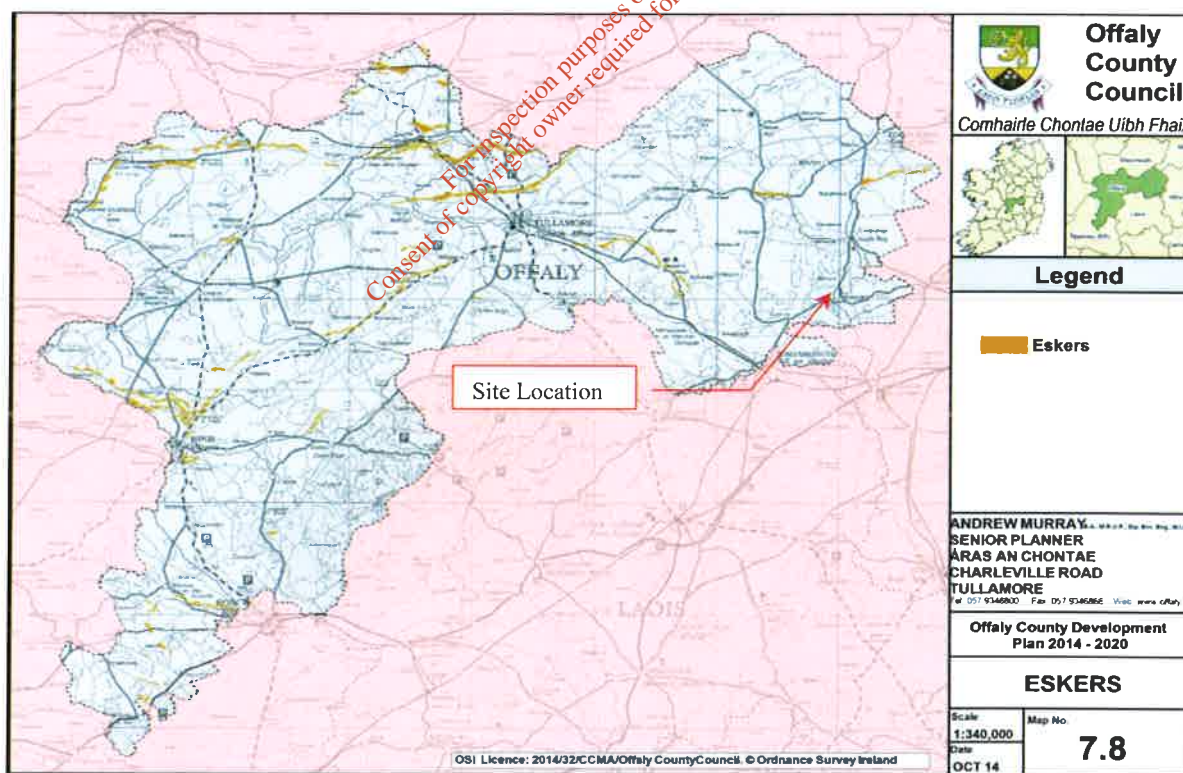
- The mountainous region of the Slieve Bloom Mountains to the southwest.
- A flat lowland/floodplain zone extending along the River Shannon
- An area in between the aforementioned areas where the topography varies from rolling to gently undulating, the shape and form determined by the effects of Quaternary glaciations.

Raised bogs are a characteristic feature of the midlands and are well represented in Co. Offaly. The larger tracts have been developed for industrial/milled peat extraction. The general area and the area immediately adjacent to the existing/proposed site has a relatively flat topography similar to a significant part of Co. Offaly and surrounding areas.

The proposed development site is predominantly flat with a gentle slope from east to west. Existing ground elevations range from 61.0 m OD (Malin) to 61.5 m OD (Malin) in the main part of the site to 62.0m OD (Malin) along the eastern boundary of the site adjacent to the Figile River. The site of the existing and previously approved pig farm, and site of the proposed development is not obtrusive in the surrounding landscape. The ground levels are as depicted in the site plans, sections and contour details as submitted with this application. A copy of same is contained in Appendix No. 3.

The bedrock in Offaly is masked by the Quaternary deposits, peat, sand and gravel, and till which form many of the lower irregular topographic features. The rocks are folded with the axes of the folds tending NE – SW. The older sandstones are present in the anticlines of the Slieve Bloom Mountains, and at Moneygall, the Cloghan-Ferbane-Lemanaghan area and near Clonmacnoise. The remainder of Offaly consists of a variety of Limestones with a small area of volcanic rocks forming Croghan Hill. The reef limestone, a light to medium grey, fine grained poorly bedded limestone, is the most abundant rock type in Co. Offaly, stretching as three broad bands across the county in a NE-SW direction, although in most cases this is overlain by a dark grey or black, well bedded or muddy limestone called the Calp Limestone. The youngest limestone forms the spine of the County, stretching from Birr north-eastwards through Kilcormac and Tullamore, towards the border with Co. Westmeath. It is a pure, pale, thick-bedded coarse grained limestone, which is locally dolomitised.

**Figure 6.1.1 - Eskers**



The topography of the central midlands is dominated by glaciofluvial landforms relating to the final deglaciation of the area. The most prominent of these features are the extensive esker chains. The eskers of the midlands have been described as the finest in the world, however reference to the County Development Plan for Co. Offaly confirms that this site is not located close to, and or likely to have any impact on any such areas.

The thickness and variability of the peat/till deposits that cover the underlying bedrock and sand/gravel deposits have a major influence on soil type and aquifer vulnerability. Thick clay soils will provide aquifers with protection from surface pollution while lighter free draining soils afford less protection. Soil is the natural medium for growth of plants. All soils have certain factors in common. Every soil consists of mineral and organic matter, living organisms, water and air. The relative proportions of these components vary between soils. The soil profile is important in many aspects of plant growth, including root development moisture storage and nutrient supply.

The soils of Co. Offaly can be grouped into two distinct categories, Lowland and Hill /Mountain soils. The topography of the lowlands of Co. Offaly extending from the Shannon basin in the west of the county to the Kildare Border in the east is gently undulating. On the higher parts of the topography Grey Brown Podzolics and Brown Earth soils dominate, while at lower levels such as the Bracknagh Pig Farm site, Gleys, Peats and Alluvial Soils dominate. Gleys are soils in which the effects of drainage impedance dominate.

#### **(b) Proposed customer farmlands.**

Due to the nature of the customer farmland areas, they cover/will cover a significantly larger area than the site of interest, i.e. the site of the proposed development. As a result the topographic features and solid geology will be more varied and are deemed to be beyond both the scope and requirement of this E.I.S.

Due to the nature of the activities to be carried out on these customer farms, i.e. the application of organic fertilisers (produced on-farm, supplied from this pig farm and/or other sources of organic fertiliser) and inorganic fertilisers (from the local co-op), these farms will be governed by the requirements of the nitrates directive, i.e. the requirement not to spread on steep slopes where there is a potential increased risk of pollution, the requirement not to spread on, or within 15 m of exposed bedrock and/or other vulnerable features, not to apply excess fertilisers etc.

Some notable features that could distinguish the site from the customer farmland areas will be, 1) the variability in the topography across the area from flat, to gently sloping to more steeply sloping, 2) the variability in soil type from one area to another, and, 3) the transition from one River Catchment area to another.

### **6.1.2 Soil Geology**

#### **(a) Site and immediate area**

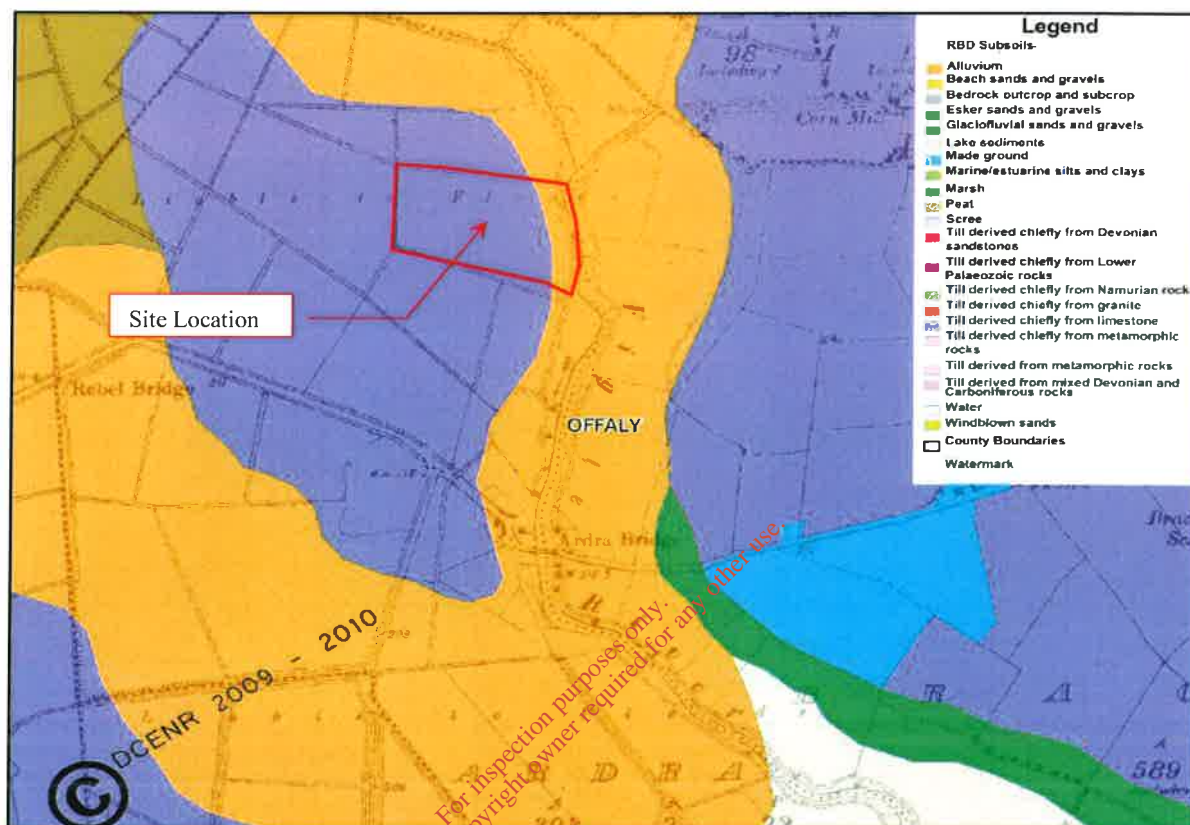
The existing *pig farm site, and site of the proposed development* is located in the area identified as having;

- **Subsoil – Carboniferous Limestone Till**



Sub-soil conditions at the proposed development site consist of limestone tills with some areas of alluvium deposits mapped as extending approximately 15m into the site from the eastern boundary.

**Figure 6.1.2 - Subsoil Classification**



- **Topsoil – Bmin PD** – Derived mainly from Calcareous parent materials

**(b) Proposed customer farmlands.**

Due to the nature of the customer farmland areas, they cover/will cover a significantly larger area than the site of interest, i.e. the site of the proposed development. As a result the soil geology will be more varied and are deemed to be beyond both the scope and requirement of this E.I.S. Due to the nature of the activities to be carried out on these farms, i.e. the application of organic fertilisers (produced on-farm, supplied from this pig farm and/or other sources of organic fertiliser) and inorganic fertilisers (from the local co-op), the customer farmland areas will be governed by the requirements of the nitrates directive on each individual customer farmer, i.e. the requirement not to spread on waterlogged, frozen, snow covered ground, not to apply excess fertilisers etc. thus protecting soils from chemical and hydraulic loading and other physical damage.

Mitigation measures where applicable are discussed in Section 7.1.



## 6.2 Ground Water

### (a) Site and immediate area

Groundwater can be defined as water that is stored in, or moves through, pores, cracks and/or other fissures in the underlying soil/sub-soil material. These features also affect the potential water yield from an area. The bulk of the water supplies in Co. Offaly are derived from groundwater sources both Public and Group Water Schemes. Details of these schemes as contained in the County Development Plan, confirm that this pig farm is not located close to any of these sources. Given the mitigation measures to be implemented it is unlikely that the proposed development would have any adverse impact on any of these areas.

The main feature protecting the quality of groundwater is the overlying soil/sub-soil material. The groundwater adjacent to the site is overlain by a considerable depth of overburden. According to G.S.I. records the aquifer classification of the site is referred to as a Locally Important Aquifer - Karstified, (Lk). The aquifer vulnerability for the area of the existing and proposed development is classed as Moderate.

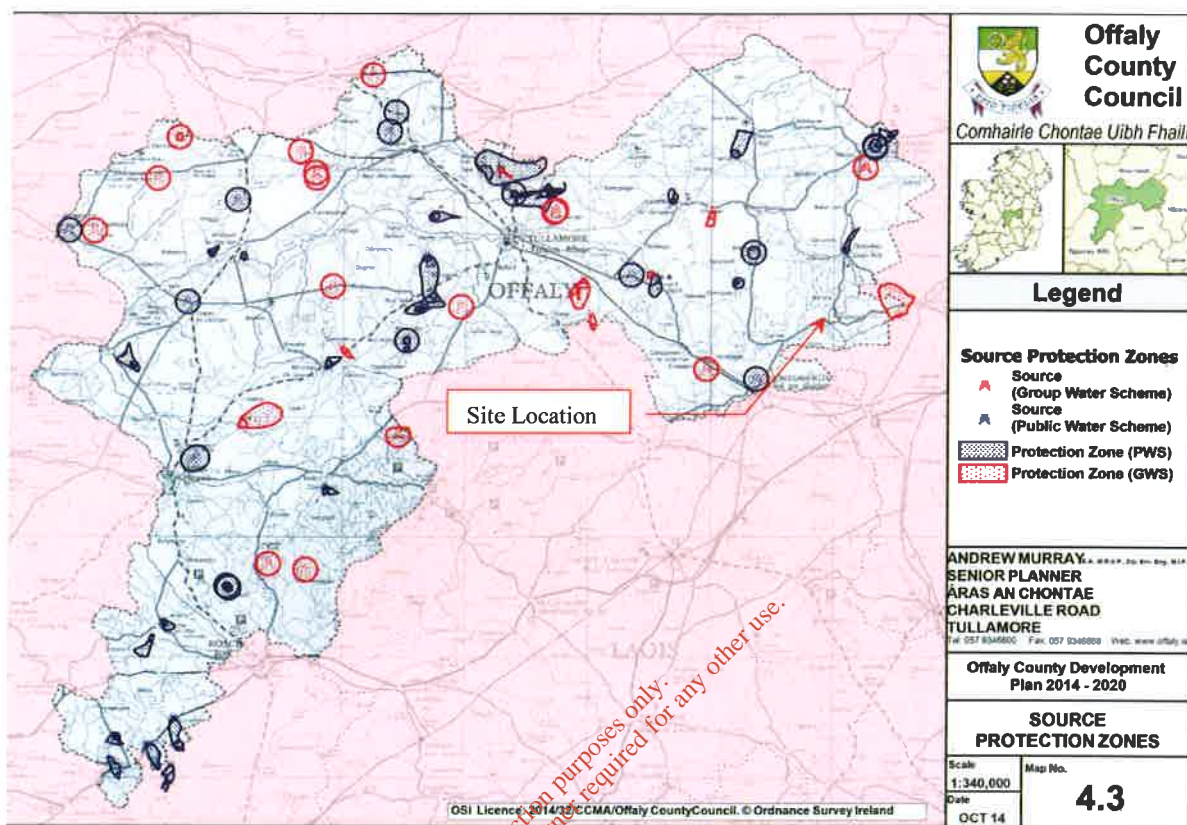
**Figure 6.2.1 - Aquifer Classification (Source G.S.I)**



As can be seen from the soil profile for the area concerned, any ground water sources in the area are afforded considerable protection due to the depth of overburden, nature of the soils, and their associated characteristics. The applicant has not encountered rock as part of the site works associated with the existing development. Previous development works carried out demonstrated at least 2.4 m of overburden on the site.

The proposed development site is also located outside of any designated source protection zones as detailed in the County Development Plan 2014-2020.

**Figure 6.2.2 - Source Protection Zones**



Appendix no. 10 provides copies of recent water sample results from the groundwater well located on site.

#### (b) Proposed customer farmlands.

Soils are the basic resource for the production of commercial food crops and rearing of livestock. In order to achieve the required crop/animal yield from soils additional fertiliser, such as the organic fertiliser from this farm, must be applied. As all fertiliser from this farm is to be allocated for use in accordance with S.I. 31 of 2014, the groundwater resources in the relevant areas will be afforded the required protection.

Mitigation measures where applicable are discussed in Section 7.2.

### 6.3 Surface Water

#### (a) Site and immediate area

The Pig Farm site is located in east Co. Offaly and site is drained by tributaries of Figile River. Previous discussions by the applicant with Offaly Co. Co. in relation to this site had identified that the potential for flood risk needed to be addressed.

A site specific Flood Risk Assessment in accordance with *The Planning System and Flood Risk Management Guidelines* was undertaken by IE Consulting as part of this EIA, and is contained in Appendix No. 19. This identified a limited flood inundation in 2008 on the site, and, estimated the 1 in 100 year and 1 in 1000 years flood levels as 61.56m OD and 62.14m OD respectively. The existing structures floor level is at or just above ground level and provides limited protection in the event of any potential flood event.

The applicant implements a continuous surface water inspection programme in line with their existing E.P.A. Licence requirements. This includes weekly monitoring and quarterly sampling of surface water discharge/inspection points, as detailed hereafter. Sample results for the 2 No. existing surface water discharge points (this will be reduced to one as a result of the proposed development) for 2013 – 2014 have been included in Appendix No. 10.

The EPA guidance document on setting trigger values for Storm water Discharges (EPA 15<sup>th</sup> March 2012) provide guidance in relation to COD and Suspended solids concentrations in storm water discharges with the following suggested limits:

- COD – 50mg/l recognised as the warning (lower) Limit and 80 mg/L as the Action (Upper) Limit.

Appendix No. 10 contains details on local river water quality data.

The site is located within the South Eastern River Basin District. The South Eastern River Basin District is one of Ireland's largest river basin districts covering about one fifth of the country with a land area of nearly 13,000km<sup>2</sup> and a further 1,000km<sup>2</sup> of marine waters. The South Eastern District encompasses all of counties Carlow, Wexford and Kilkenny, most of Waterford, Tipperary and Laois, parts of Kildare, Offaly and Wicklow and a small part of Limerick and Cork. It is bounded to the south by the Celtic Sea, the east by the Irish Sea and has borders with the Eastern District, the Shannon International District and the South Western District. Rainfall is relatively low, approximately 800mm per year, and temperatures are moderate.

#### (b) Customer farmlands.

Soils are the basic resource for the production of commercial food crops and rearing of livestock. In order to achieve the required crop/animal yield from soils additional fertiliser, such as the organic fertiliser from this farm, must be applied. This organic fertiliser will replace imported chemical fertiliser that would otherwise have to be used. As all fertiliser

from this farm is to be allocated for use in accordance with S.I. 31 of 2014, the surface water resources in the relevant areas will be afforded the required protection.

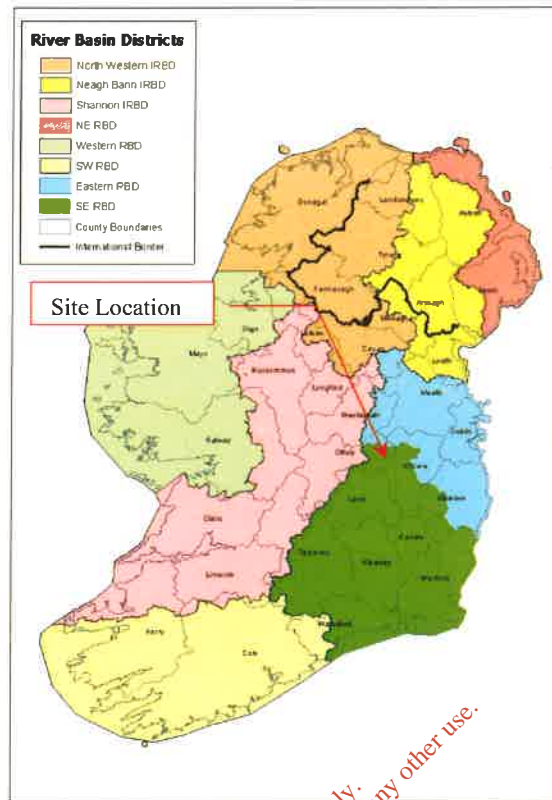
The protection and improvement of water quality in Ireland is / will be co-ordinated on the basis of the areas known as river basin districts, established for the purposes of the EU Water Framework Directive (2000/60/EC).

The Water Framework Directive, or WFD, came into force on 22 December 2000 and established a new, strengthened system for the protection and improvement of water quality and water-dependent ecosystems. It provides for co-ordinated water quality management based on natural river basins (i.e. catchments). It aims at preventing any deterioration in the status of any waters and at achieving at least "good status" for all waters by 2015. The status of waters will be determined by chemical and ecological criteria for surface waters and chemical and quantitative criteria for ground waters. It requires the carrying out of numerous preparatory tasks leading to the adoption by December 2009 of river basin management plans and their implementation, review and updating on a six-year cycle. The Draft River Basin Management Plan for the South Eastern River Basin District was published in *December 2008*, and was available for consultation until June 2009. This South Eastern River Basin District River Basin Management Plan 2009 -2015 has since been published

The Water Policy Regulations, together with the corresponding legislation for Northern Ireland, established a total of eight RBDs in relation to the island of Ireland in accordance with the proposals set out in the joint North / South consultation paper "Managing Our Shared Waters" (March 2003). One of these RBDs is situated wholly in Northern Ireland, four are situated wholly in the Republic of Ireland and three relate to cross-border areas and are known as International River Basin Districts (IRBDs).

This site of the proposed development is located in the South Eastern River Basin District, See Figure 6.3 for details of River Basin Districts.



**Figure 6.3 Ireland's River Basin Districts****Water Classification System and Beneficial Uses**

<b>Table 6.1.3b: System of Water Quality Classification</b>		
<b>Biotic Index Classification</b>	<b>Quality Status</b>	
Q5, Q4-5, Q4	Unpolluted Waters	A
Q3-4	Slightly Polluted Waters	B
Q3, Q2-3	Moderately Polluted Waters	C
Q2, Q2-1, Q1	Seriously Polluted Waters	D

**Unpolluted Waters  
Class A**

High quality waters suitable for supply and abstraction.  
Game fisheries and high amenity value.  
(Satisfactory)

**Slightly Polluted Waters  
Class B**

Usually good game fisheries. Suitable for supply. Moderate to high amenity value.  
(Transitional)

**Moderately Polluted Waters  
Class C**

Coarse fisheries. Not likely to support a healthy game fishery. Suitable for supply after advanced treatment.  
(Unsatisfactory)

**Seriously Polluted Waters  
Class D**

Fish absent or only sporadically present. May be used for low grade industrial abstraction. Low amenity value.  
(Unsatisfactory)



The history of this site, the overall farm, and, associated activities located adjacent to the proposed site, as regards surface water quality in the immediate area has been good. The customer farmlands that will potentially utilise organic fertiliser from this farm will be farmed well, with due care to waterways, spreading rates and nutrient requirements, and this will continue in line with the requirements of S.I. 31 of 2014.

Please refer to Appendix No.10 for details relating to surface water quality in the area of the proposed site. As previously stated the surface water quality in the area of the customer farmers lands where organic fertiliser from this farm will be used, will not be affected as this organic fertiliser will replace chemical fertiliser that would otherwise have to be used and all organic fertiliser is to be allocated for use in accordance with the Nitrates directive, S.I. 31 of 2014. The proposed development of this farm as an 1,250 sow breeding only farm will not alter the amount of organic fertiliser to be produced over and above that associated with the previously approved development.

### 6.3.1 Lake Water Quality

As previously indicated this existing pig farm and the site of the proposed development is located in the catchment of the Figile River. The site of the existing and proposed farm is drained by tributaries of the Figile River which in turn joins with the Black River and then the River Barrow just north of Monasterevin.

During the course of this river from the existing/proposed site to the point where it joins the River Barrow, there are no significant lakes.

### 6.3.2 Beneficial uses of surface waters in the Catchment Areas.

Beneficial uses may be defined as activities, which are dependent on the river/lake for their existence.

These include,

1. Water extraction for,
  - Drinking
  - Process
  - Irrigation
2. Fisheries
3. Recreation and Water sports
4. Receiving waters for waste water discharges.

Water may be abstracted by both public and private bodies for drinking water and industrial use.

Mitigation measures where applicable are discussed in Section 7.3.

## 6.4 Air

Odour associated with pig farming enterprises may arise from two situations:

- The pig farm
- The manure spreading operation.

The pig farm is located in an entirely agricultural hinterland where typical levels of farm odour are to be found and expected. This odour arises from farmyards and lands during the day to day operations such as silage feeding, manure agitation and manure spreading. The existing farm, using the best available practices, is already operating without a significant effect on the environment and will continue to strive to minimise all environmental impacts. Well maintained, properly ventilated, slatted floor, pig farms are practically odour free.

There are no residential locations within 250 m of the existing, previously approved and/or proposed pig farm developments. This pig farm is operating in a sparsely populated rural environment and hence the pig farm will cause no nuisance. The existing hedgerows and proposed landscaping will help screen the pig farm view. Please refer to Met Data contained in Appendix No. 12.

Rosderra Farms has/will advise all farmers receiving organic fertiliser from this farm that the low trajectory splash-plate method of spreading should be used and that adherence to the Teagasc Codes of Good Practice and S.I. 31 of 2014 will help them maintain a good working relationship with their neighbours. The application of organic fertiliser in accordance with S.I. 31 of 2014 will ensure that excessive application of manure, which may lead to extra odour from surface soil saturation, will be avoided.

Mitigation measures where applicable are discussed in Section 7.4.

## 6.5. Climate

Climate information is useful for predicting the likely impacts that the farm operation and the application of manure in the area will have upon the residents. Details of annual rainfall and wind direction can be found in Appendix No.12. Wind direction at the site is critical to odour movements and rainfall is critical factor in the application of manure. The prevailing wind in this area (Birr weather station – now closed, which is the closest to the proposed development) is from the southwest. Rainfall in the area of the pig farm and customer farmlands averages annually c. 845 mm, (1978 – 2008 average for Birr station).

Mitigation measures where applicable are discussed in Section 7.5.

## 6.6. Visual Aspects and Landscape

The pig farm is located on c. 4 hectares of agricultural land in the town land of Ardra. This area is identified as an area of Low Sensitivity in the landscape classification contained in the Offaly County Development Plan.

**Summary of Landscape Characteristics and Sensitivities as applicable to Low Sensitivity Areas (as taken from Offaly County Development Plan 2014-2020)**

**Low Sensitivity Areas** - Rural and Agricultural Areas

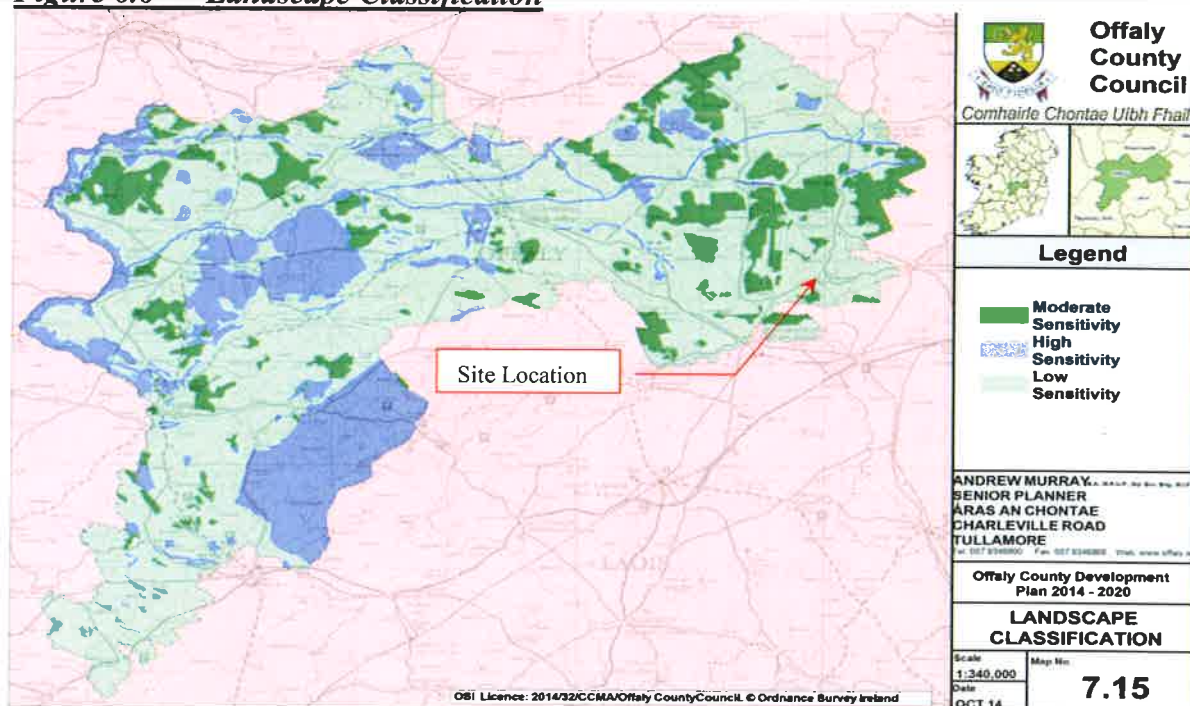
**Characteristics:** County Offaly is largely a rural county which comprises of a predominantly flat and undulating agricultural landscape coupled with a peatland landscape. Field boundaries, particularly along roadside verges which are primarily composed of mature hedgerows typify the county's rural landscape.

**Sensitivities:**

- These areas in general can absorb quite effectively, appropriately designed and located development in all categories (including: telecommunication masts and wind energy installations, afforestation and agricultural structures).
- Due to the rural nature of the area, development shall be screened by appropriate natural boundaries that are sympathetic to the landscape generally, where possible.
- New housing proposed should respect the Councils rural housing design guidelines, coupled with conformity with development standards.

The general area and the area immediately adjacent to the existing/proposed site has a relatively flat topography similar to significant areas of this part of Co. Offaly. The existing pig farm buildings, existing landscaping/mature hedgerows and finishes to the proposed buildings will help to screen the development from the local view and help integrate it into the surrounding landscape. The existing farm has been developed on a site that is not intrusive on the landscape. The proposed pig houses are grey/green in colour with dark coloured roofs and approximately 6 metres above slat level, which is in turn c. 1.8m above existing ground levels. The circular feed silos are c. 8 - 10 metres high and are to be silver or grey in colour. Mitigation measures where applicable are discussed in Section 7.6.

**Figure 6.6 - Landscape Classification**



## 6.7. Noise Levels

Noise levels are measured in decibels and a weighting factor (A) is applied to approximate the frequency response of the human ear. This weighted decibel scale, dB (A), correlates well with human sensations of loudness, disturbance and annoyance. Background noise levels in rural areas of Ireland are in the 45-50 dB (A) range. The peak noise periods on pig farms are at feeding times, however a large number of the animal will be ad-libitum fed thus minimising potential noise. This farm will have state of the art buildings with high insulation standards as the proposed development will be constructed to the highest standards. Due to its remote location and the low population density in the area, this pig farm will not create a disturbance or annoyance to anyone. The new structures will be well integrated into the expanded pig farm site.

The results of a number of noise surveys, on other pig farms, that were carried out by Bord Na Mona on behalf of C.L.W. Environmental Planners Ltd. are contained in Appendix No.15. These results indicate that noise emissions from this pig farm, as it exists and/or as proposed, will have no detrimental impact on the local environment. There has been no noise complaints regarding the existing pig farm as currently operated. All traffic into or out of the site should be during the normal working day and will cause no disturbance. Mitigation measures where applicable are discussed in Section 7.7.

## 6.8. Traffic

The existing farm and site of the proposed development, i.e. the subject site, is located on c. 4 Ha. in the town land of Ardra. The site is accessed from the Regional road, the R 419 which runs from Portarlinton to Rathangan, and through Bracknagh Village. The site is located, c. 0.6 km's north west of Bracknagh and is accessed by c. 350 m of an internal roadway/laneway leading from the aforementioned regional road and terminating at the pig farm.

Adequate on-site space has been/will be provided to ensure that the turning movements of all vehicles associated with the farm as it exists, and/or as proposed can be facilitated. Sufficient parking has been/will be provided on-site for all vehicles associated with the farm. Traffic to and from the site (as approved) will be due to the proposed construction activities to be carried out on site (temporary), and the increase in the scale of activity on the farm (permanent).

Traffic associated with the farm as previously approved is due to;

- Feed deliveries to the site (c. 3-5 load/week ),
- The transport of organic fertiliser/manure from the farm (c. 11/12 load/week in the spreading season, i.e. 37 weeks, ), and,
- The transport of pigs from the farm (c. 2 load/week ) and materials to and from the farm.
- Ancillary traffic such as vets, advisors, staff, waste collection etc.

Mitigation measures where applicable are discussed in Section 7.8.



## 6.9 Flora and Fauna

### (a) Site and immediate area

As previously described the proposed development is to be carried out on an existing pig farm. The lands directly adjoining the site of the existing and proposed developments are owned by the applicant. The majority of the lands in the surrounding area are/have been used for agricultural production for a long number of years. The flora and fauna associated with this site has developed accordingly as the site has developed and changed over the years from grassland to a pig farm site.

Information from the website of the National Biodiversity Data Centre reveals that there are no records of rare or protected species from within the 1km square (N5918) of the proposed development.

There are no specific unique habitats, flora and/or fauna on this site that require specific protection. There are no designated sites within close proximity (5km's) to the pig farm site so as to be likely to be adversely affected by the existing and/or proposed development.

A screening report completed by Noreen McLoughlin MSc of Whitehill Environmental (discussed hereafter – Section 6.10) has been prepared to assess the potential impact of the proposed development on designated areas, however, these areas will remain protected and will not be adversely impacted by the proposed development.

### (b) Customer farmlands

The customer farmland is/will be agricultural land. As governed by the Nitrates directive organic fertiliser from this pig farm (existing and proposed) can only be applied to agricultural lands where a crop response, be it grassland/tillage/maize etc., is anticipated. The local land for receipt of organic fertiliser from this farm is used for grassland (grazing or cut for silage) and/or tillage production. Traditionally animal manure has been applied to these lands as a source of fertiliser and to replace energy inefficient inorganic fertiliser.

Mitigation measures where applicable are discussed in Section 7.9.

## 6.10 Special Policy Areas

To provide protection to heritage items Special Policy Areas have been designated. These areas relate to areas of important heritage items worthy of protection and conservation. Within the special policy area it is the policy of the Planning Authorities to regulate and restrict any development that may threaten the value or integrity of the asset. Development proposals which would have an unacceptable impact on objects, items or sites included in the above lists will not be allowed. Where development is allowed the Planning Authority may include conditions to reduce or ameliorate adverse impacts.



These Special Policy Areas include:

**(A) Nationally Designated Environmental areas.**

- **Natural Heritage Areas (N.H.A.'s)**

The basic designation for wildlife is the Natural Heritage Area. This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. To date, 75 raised bogs have been given legal protection, covering some 23,000 hectares. These raised bogs are located mainly in the midlands. A further 73 blanket bogs, covering 37,000ha, mostly in western areas are also designated as NHAs. In addition, there are 630 proposed NHAs (pNHAs), which were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats. The pNHAs cover approximately 65,000ha and designation will proceed on a phased basis over the coming years.

Prior to statutory designation, pNHAs are subject to protection, in the form of:

- Agri-environmental farm planning schemes such as Rural Environment Protection Scheme (REPS 3 and 4) and Agri Environmental Options Scheme (AEOS) continue to support the objective of maintaining and enhancing the conservation status of pNHAs. The farm plans operate for a period of 5 years. REPS 4 plans will continue to operate until 2014.
- Forest Service requirement for NPWS approval before they will pay afforestation grants on pNHA lands.
- Recognition of the ecological value of pNHAs by Planning and Licencing Authorities.

Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation. The site is located >5km's from the closest NHA or pNHA (Grand Canal) and is located outside of the catchment areas of same.

- **Special Protection Areas (S.P.A.'s)**

Ireland is a special place for wild birds. We are at the end of major flyways of waterfowl migrating south for the winter from North America, Greenland, Iceland and the Arctic. In spring and summer, Ireland provides important breeding grounds for species from the continent of Europe or Africa. Our long coastlines provide safe breeding and wintering grounds for large numbers of seabirds. In addition we have resident species which are scarce or rare in other parts of Europe.

As birds migrate long distances the EU Birds Directive provides for a network of sites in all Member States to protect birds at their breeding, feeding, roosting and wintering areas. It identifies species which are rare, in danger of extinction or vulnerable to changes in habitat and which need protection. In Ireland, we have 25 of these species regularly occurring. They include Bewicks and Whooper Swan, Greenland White-Fronted and Barnacle Geese, Corncrake, Golden Plover, Bar-Tailed Godwit, five species of tern, birds of prey including Hen Harrier, Peregrine, Merlin as well as the Nightjar, Kingfisher and Chough.

Specific proposals to designate Special Protection Areas (SPAs) in order to safeguard certain habitats pursuant to EU Directive requirements were advertised in the local press and radio. These proposals are intended to safeguard the habitat of these selected sites.

**The EU Birds Directive (79/409/EEC) requires designation of SPAs for:**

- Listed rare and vulnerable species such as those mentioned above.
- Regularly occurring migratory species, such as ducks, geese and waders.
- Wetlands, especially those of international importance, which attract large numbers of migratory birds each year. (Internationally important means that 1% of the population of a species uses the site, or more than 20,000 birds regularly use the site.)

121 SPAs have been designated since 1985. 25 other sites enjoy legal protection and will be designated as SPAs. It should be noted that many existing and future SPAs overlap with SACs. The Irish SPAs join a total of around 3,000 sites across the European Union.

• **Special Areas of Conservation (S.A.C.'s)**

Special areas of conservation are prime wildlife conservation areas considered to be important on a European level as well as an Irish Level. The legal basis on which Special Areas of Conservation are selected and designated is the EU Habitats Directive (92/43/EEC), transposed into Irish law in the European Union (Natural Habitats) Regulations, 1997. These regulations have been amended twice with SI 233/1998 and SI 378/2005.

The Directive lists certain habitats and species that must be protected within SACs. Irish habitats include raised bogs, blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets. The 25 Irish species which must be afforded protection include Salmon, Otter, Freshwater Pearl Mussel, Bottlenose Dolphin and Killarney Fern.

The areas chosen as SAC in Ireland cover an area of approximately 13,500 square kilometers. Roughly 53% is land, the remainder being marine or large lakes. Across the EU, over 12,600 sites have been identified and proposed, covering 420,000 sq. Km. of land and sea, an area the size of Germany. S.P.A.'s and S.A.C.'s collectively form part of 'Natura 2000', a network of protected areas throughout the European Union.

The site is located in an area where the dominant habitat is improved agricultural grassland. Other habitats surrounding the site include wet grassland, hedgerows, treelines, drains, streams and rivers (the Figile River). A site location map is shown in Figure 1 and an aerial photograph showing the site and its surrounding habitats is shown in Figure 2, of the completed Appropriate Assessment Screening Report contained in Appendix No. 13.

The site itself has few natural habitats remaining. The dominant habitat within is buildings and artificial surfaces, a habitat of very limited value. Boundaries along the southern,

western and northern perimeters consist of hedgerows / treelines. The eastern boundary is open and faces onto the Figile River.

Information from the website of the National Biodiversity Data Centre reveals that there are no records of rare or protected species from within the 1km square (N5918) of the proposed development.

The appropriate assessment screening report identifies one Natura 2000 site within 10km of this proposed development. This is the *River Barrow and Nore* Special Area of Conservation (SAC 002162) and at its closest point it is 5.9km south of the proposed development. There is also a source - pathway - receptor linkage between the two points, i.e., the Figile, Slate and Black Rivers. The upstream distance of the proposed development site from the SAC is 9.3km.

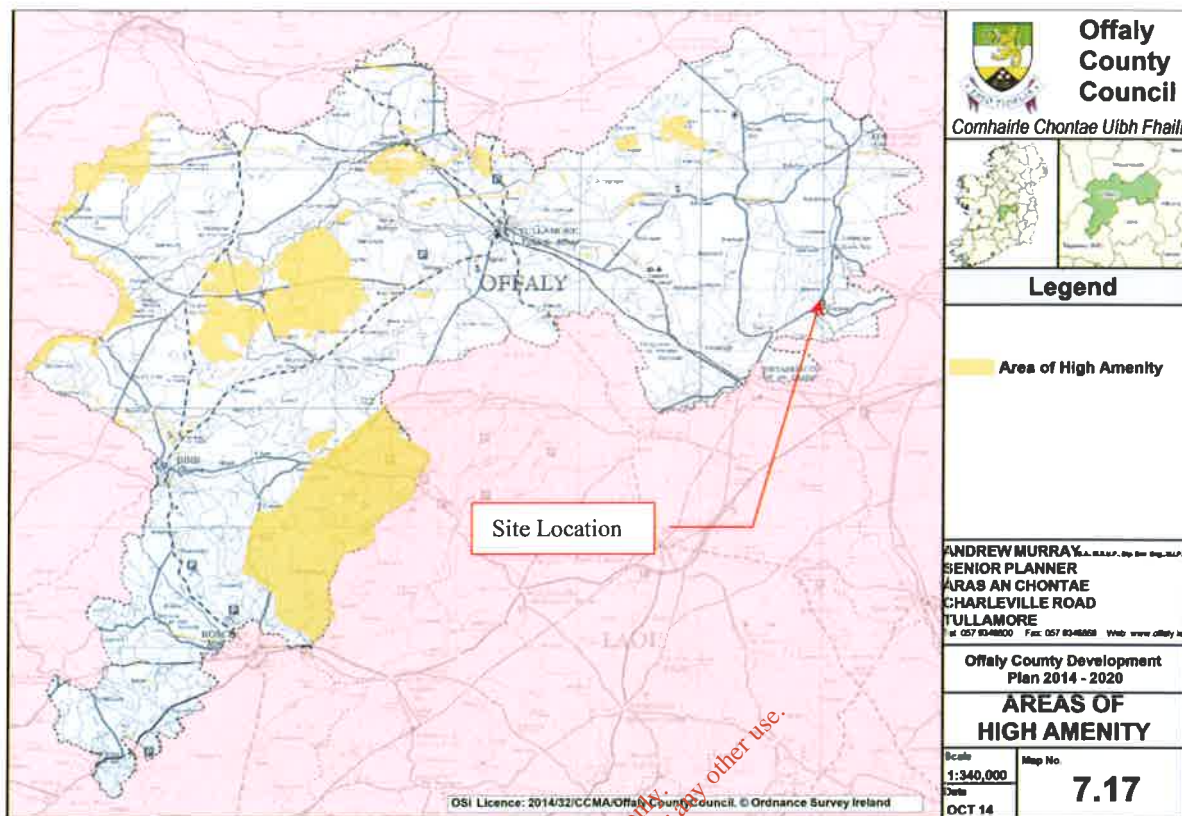
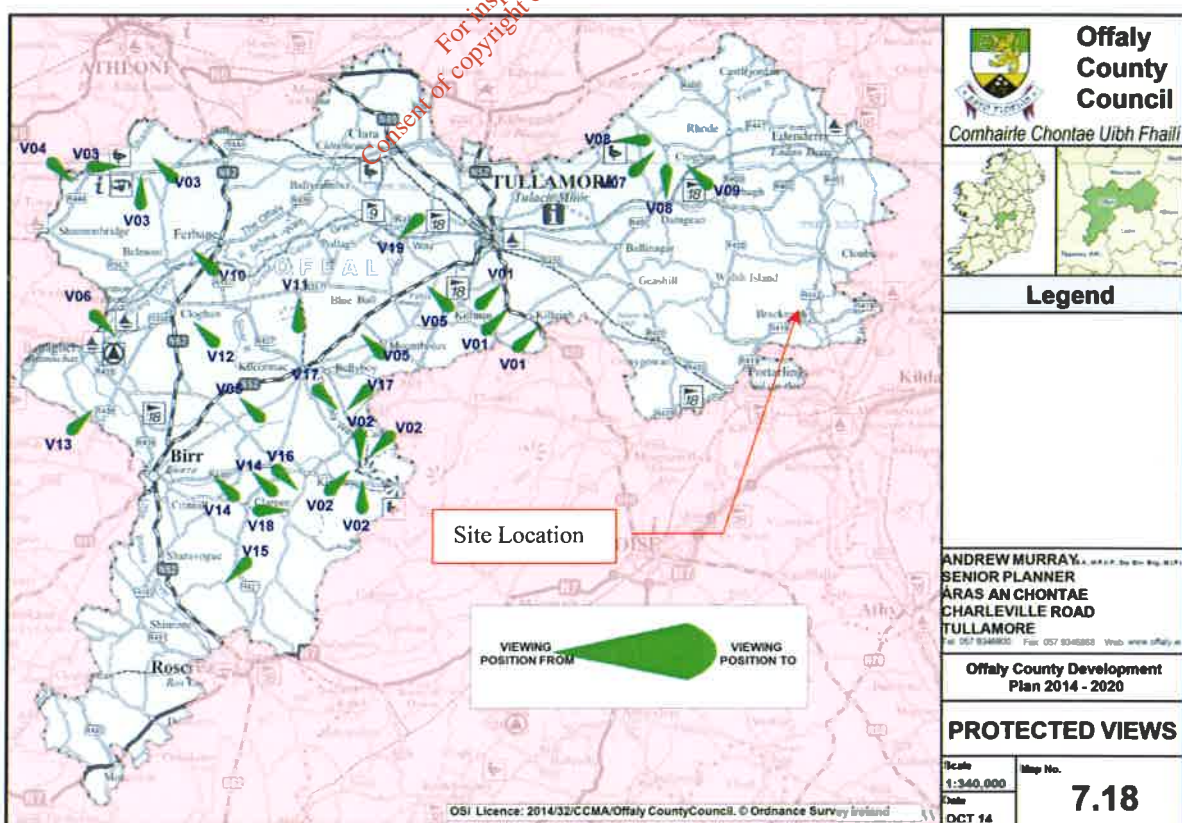
**(B) Amenity Areas**

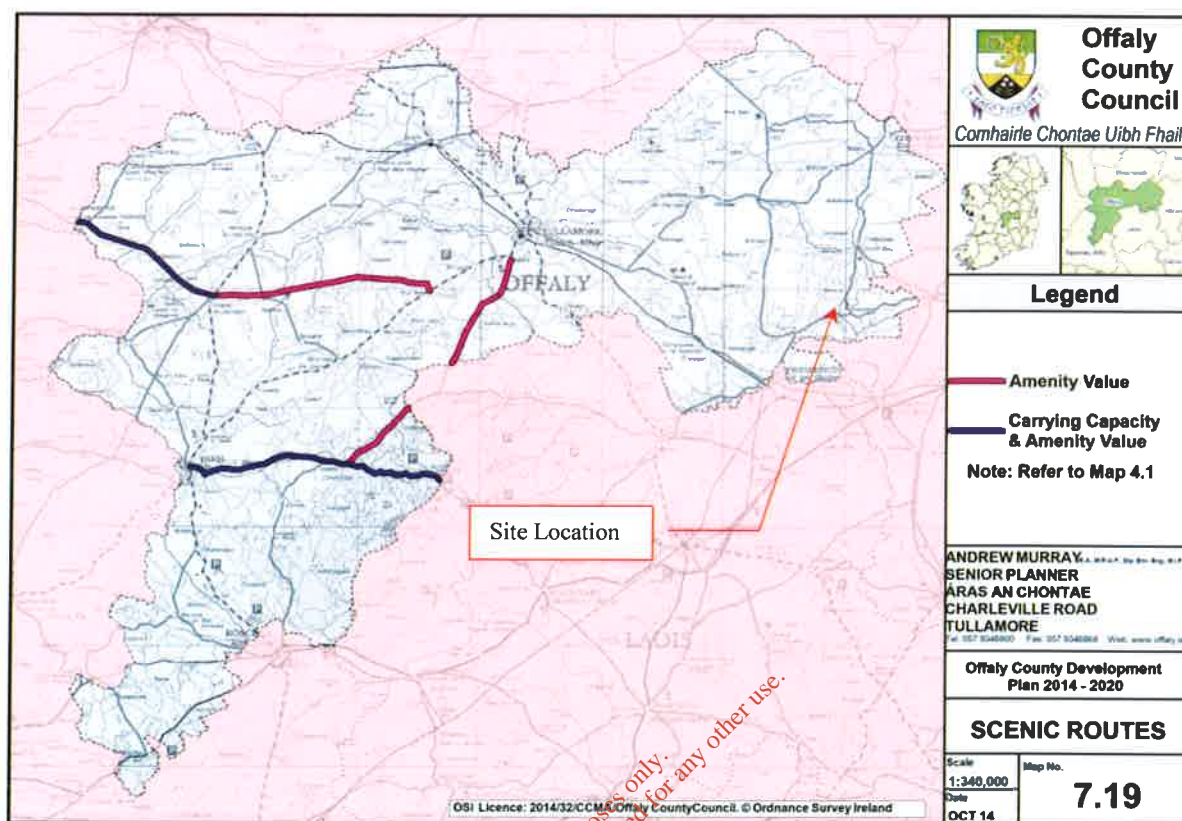
The proposed development site, adjacent to the existing pig farm site is not located near any of the tourist/amenity/sensitive areas as listed in the Offaly County Development Plan.

These areas include, Areas of High Amenity, Protected Views, and/or Scenic Amenity Routes.

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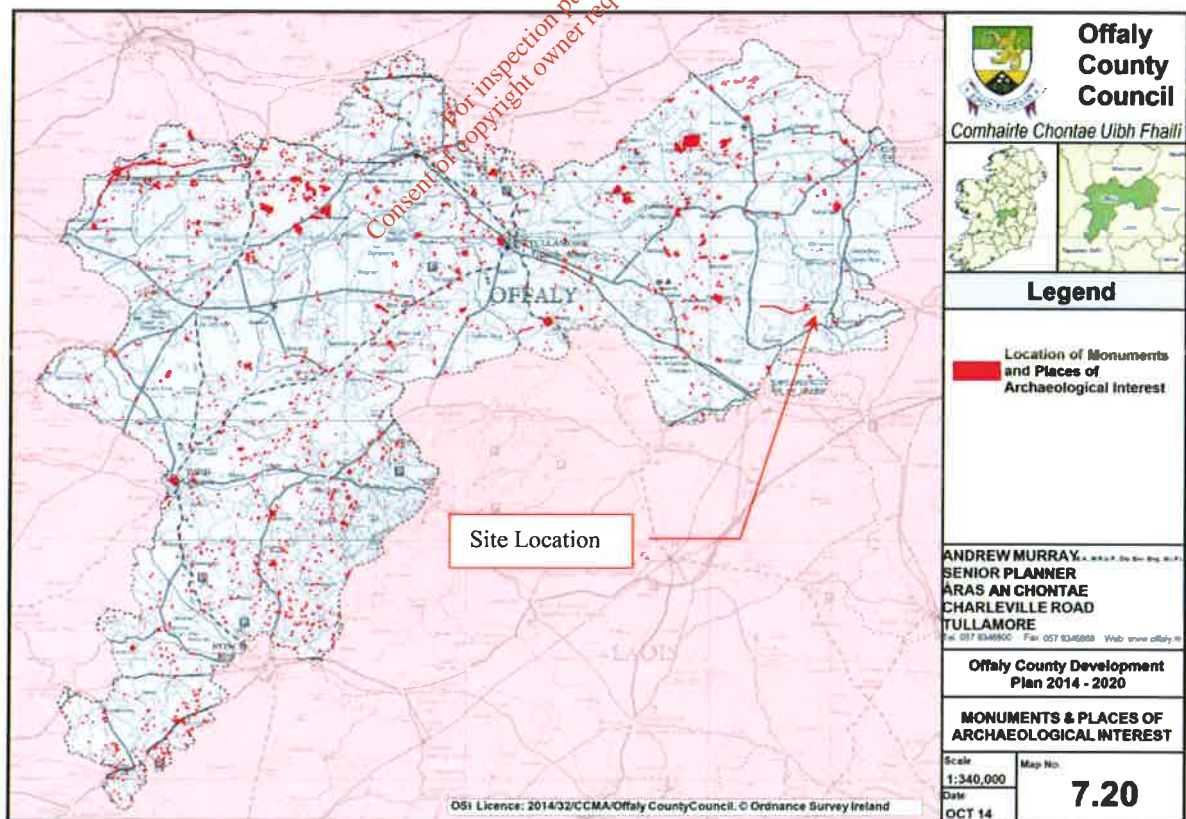
**Figure 6.10 B1 - Areas of High Amenity****Figure 6.10 B2 - Protected Views**

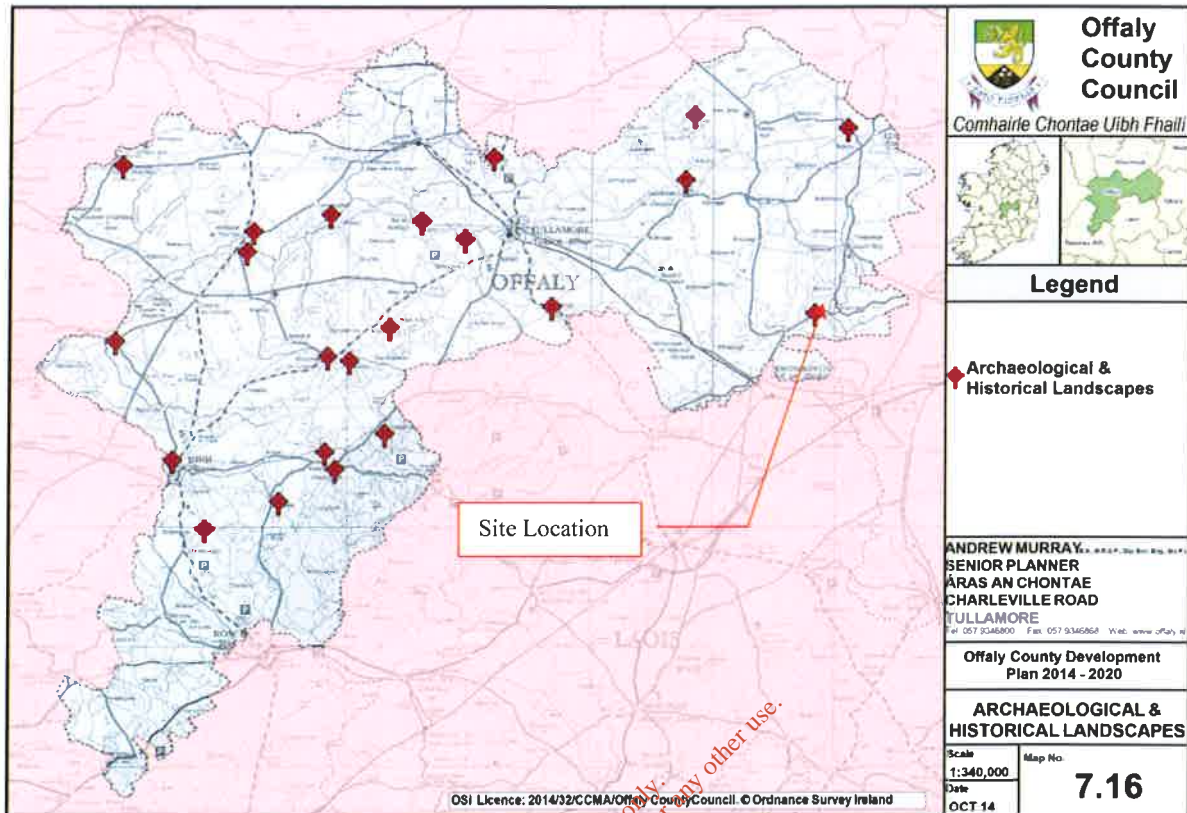
**Figure 6.10 B3 - Scenic Routes.****(C) Cultural Heritage (Architectural and Archaeological Features)**

There are no buildings/structures of architectural significance located on or adjacent to the existing and/or proposed site or likely to be impacted by the proposed development. There is no evidence of any archaeological features at the site.

The proposed development site, on the existing pig farm site is not located near, and/or likely to impact on any monuments or sites of archaeological interest as identified in the Sites and Monuments Database of the Archaeological Inventory of Ireland, the closest such recorded feature being c. 600m from the proposed development.



**Figure 6.10 C1 Extract from the Database of the Archaeological Inventory of Ireland.****Figure 6.10 C2 - Monuments & Places of Archaeological Interest**

**Figure 6.10 C2 - Archaeological and Historical Landscapes**

### 6.11 Population / Employment

As a county, Offaly has seen unprecedented growth in its population in recent years, with the population increasing by almost 20% in the 1996 - 2006 period. This was significantly driven by its location centrally within the country with easy motorway access to Dublin and Galway and the commuter routes that have developed. Offaly's population grew by 8.2% between 2006 and 2011 in line with the national growth rate for the same period. As at Census 2011, the county's population was 76,687 persons, having increased from 70,868 in 2006. Much (approximately 40%) of this population is contained within larger towns such as Tullamore (County Town), Birr, Edenderry, Clara and Portarlington. However the county remains largely rural in nature, with approximately 60% of its population residing in rural areas comprising a well-developed network of smaller towns and villages of less than 1,500 population (approximately 30% of population) and the open countryside (approximately 30% of population).

Offaly is heavily dependent on agriculture and the food industry as a source of employment. Agriculture has traditionally been the most important contributor to the rural economy of Co. Offaly. While it is now providing less employment, it still remains important as a significant source of income and employment in rural areas. The Offaly County Development Plan 2009 - 2015 indicates that in 2006 the Agriculture sector provided employment for 7.3 % (Farmers and Agricultural workers) of the workforce in the county. This is similar to the midland region at 6.5%, however it is significantly higher than the national average of 4.5 %. It is anticipated that the importance of agriculture to



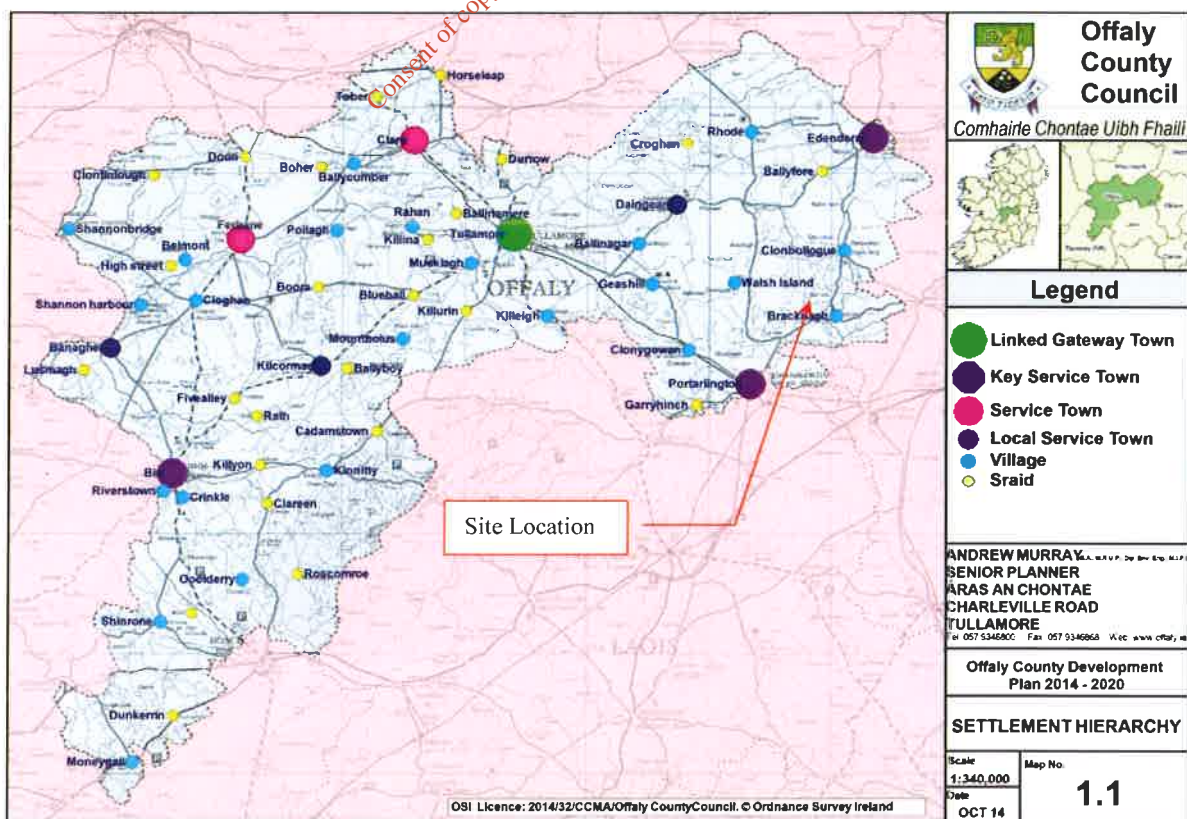
the local economy and local workforce has increased substantially in the recent past due to the economic downturn and fall in employment in the construction/services sectors.

This pig farm has had and will continue to have a positive effect on population in the area. The pig farm employs 6-8 people directly, leading to an indirect employment nationally of c. 50 - 60 people. The farm profitability of the customer farmers receiving pig manure has been boosted by cheap fertiliser nutrients replacing imported energy demanding inorganic nutrients. This farm has had no adverse effect on tourism in the area of the site due to good environmental management practices operated on the farm, the farm's rural location and its long tradition as a pig farm. The farm is located well away from any of the larger settlement areas as identified in the Co. Offaly Settlement Hierarchy.

Agriculture is the mainstay of the local economy. While it has been indicated previously that the pig industry in Offaly has not developed to the same intensity as other parts of the country, the pig industry in the county provides an important source of local employment including on farm and specifically local pork processing facilities, equipment supply companies, haulage contractors and other service industries.

The Bracknagh farm is an important part of Rosderra's supply chain, and provides an important source of pigs to the Rosderra Irish Meats premises in Edenderry and Roscrea, which are both within c. 30 -35kms of this farm. There will be 4- 6 people employed directly on this farm with c. 40 people employed directly on Rosderra Farms Pig farms and in excess of 1,000 people employed in total in the Rosderra Irish Meats Group thus providing a significant source of employment in this area. There are also significantly more indirect jobs in the form of contractors, hauliers, service personnel etc. The re-development of this farm will serve to support these jobs as well as sustaining the direct employment on the farm. Mitigation measures are discussed in Section 7.11.

**Figure 6.11 – Offaly Settlement Hierarchy**



## 6.12 Material Assets

Resources that are valued and that are intrinsic to specific places are called 'material assets'. They may be of either human or natural origin and the value may arise for either economic or cultural reasons.

The assessment objectives vary considerably according to the type of assets, those for economic assets being concerned primarily with ensuring equitable and sustainable use of resources. Assessments of cultural assets are more typically concerned with securing the integrity and continuity of both the asset and its necessary context.

The potential impact of the proposed development on archaeology / cultural assets has been discussed previously.

Material Assets that may potentially be affected by the proposed development include:

- **(A) Material Assets: Agricultural Properties including all agricultural enterprises**

The proposed development is on an existing pig farming site, in a predominantly agricultural area and development on these sites has previously been approved by Offaly Co. Co., and the E.P.A. The proposed development is surrounded by agricultural farmland, and the proposed development will not interact with any other farmland outside the confines of the site, except for the production of a valuable organic fertiliser which may be utilized by farmers as a replacement for chemical fertiliser.

- **(B) Material Assets: Non-agricultural Properties including residential, commercial, recreational and non-agricultural land.**

The proposed development has a longstanding history on the farm, is surrounded by agricultural lands and is located well away from any built up areas and/or development clusters. There are no residential dwellings within c. 250m of the proposed development site.

- **(C) Material Assets: Natural or other resources including mineral resources, land and energy**

The proposed development will not require any additional lands as it will be completed on the site of the existing structures.

The proposed development will also involve the use of a limited amount of construction materials (including quarry products and other construction materials).

The operation of the farm will require additional feed (classified as a renewable resource), energy and water. The applicant will operate modern feeding, ventilation and heating systems to minimize same.

The farm does not require any major modifications to the existing electricity supplies, water or road infrastructure in the area.

### 6.13 Tourism

Rosderra Farms is very aware of the beneficial impact that tourism is having on the local economy of the Offaly area, and indeed the consumption of the final product of their production. Offaly's landscapes, cultural heritage and environment are an important asset both, to the people of Co. Offaly, and further afield, and as a source of tourism revenue to the county.

The local tourism industry in this area is based primarily around the natural landscape and rich heritage of the area and a significant number of associated ancillary businesses. The existing pig farm site itself has, and the proposed developments (both approved and/or currently proposed) will, in no way affect the tourism industry in the area due to the fact that it is in a rural location. It will be well screened from public view and is located away from any areas frequented by tourists.

The three main tourist areas in the county are centred around;

1. The River Shannon area (incl. Clonmacnoisse) to the west of the county;
2. The Slieve Bloom Mountains along the border with Co. Laois, and,
3. The Grand Canal way running from the River Shannon in the west of the County to Edenderry in the east of the county, via Tullamore.

While there are a number of other Tourist attractions within the county the existing site and site of the proposed development is located well away from these areas and will have no adverse impact on them.

Rosderra Farms will ensure that any potential effects on the local environment and tourism industry are minimised. They will ensure that all customer farmers are aware of the requirements of the Nitrates directive (S.I. 31 of 2014) in relation to spreading of organic fertiliser and overall good farming practice so as to at least maintain, if not improve, this balance.

Mitigation measures where applicable are discussed in Section 7.12.

### 6.14 Cumulative Effects

County Offaly does not have as intensive an agriculture sector as other counties such as Cavan, Monaghan and/or Cork, and farming in the county is based more around the traditional enterprises such as tillage, dairy and beef. Given the nature of the land in this area a significant proportion of the land in Offaly is given over to forestry and peat. The pig farming sector in Offaly is concentrated in a small number of specialised farms.

This pig farm is located in southeast Co. Offaly, northwest of Bracknagh, and close to the border with Co. Kildare. Reference to the National Pig Census 2013 indicated that there are only c. 12 pig farms with greater than 100 pigs in the County, out of a total of 383 for the country. Thus pig production in Co. Offaly represents c. 3.13 % of the country's pig units. Further details included in this survey highlight the fact that only c. 6 % of the country's sow herd or, 3.67% of the finishing capacity is located in this county.



It is anticipated that the proposed development at this site will not lead to a negative cumulative impact on the local environment, due to;

- The low level of intensive farming in the county as a whole,
- The mitigation measures proposed, and,
- The fact that there will be no intensification of activity and/or increase in the volume of organic fertiliser over and above that already approved for this farm/site.

This proposed development would also be in keeping with the goals of the National Spatial Strategy which seeks to achieve more balanced regional development to optimize the potential of all regions to contribute to the continuing prosperity of the country.

Specific reference is made on the Offaly County Development Plan 2014 – 2020, regarding the development of pig farms. It states that;

*The density of intensive pig units shall be carefully controlled, in order to minimise their impact, to prevent soil and ground water contamination and to protect rural amenities. Developments involving intensive pig units shall be required to show compliance with the following requirements:*

- *The developer shall have all lands available and suitable for spreading in close proximity to the pig unit.*
- *That satisfactory arrangements for storage, management and spreading of slurries are provided.*
- *New units shall be well removed from existing settlements and development clusters.*

As previously detailed Rosderra Farms has;

- *Planned the proposed development in such a way that it will not result in an increase in organic fertilise production over and above that previously produced on the farm*

This farm has been operating successfully for a long number of years and has a stong history of supplying local farmers with an important source of organic fertiliser.

*The applicant acknowledges that if they were looking to increase the level of organic fertiliser production on site, additional information may be required in this regard.*

There is a significant demand in the local area for organic fertiliser to replenish the nutrients and organic matter, which have been removed by the crops/grassland farming activities so as to ensure efficient, sustainable and environmentally friendly agriculture. As previously detailed all transfers of organic fertiliser to customer farmers are to be carefully controlled, recorded and documented and notified to the Department of Agriculture, Food and The Marine as the regulatory authority in line with the requirements of S.I. 31 of 2014.

- **Proposed a significant amount of mitigation measures to ensure the appropriate management, storage and spreading of the organic fertiliser;**
  - (a) Including c. 19 months manure storage capacity, increasing from c. 6 months capacity as per the previously approved development and significantly in excess of the minimum 6 months required.
  - (b) Excess customers for the organic fertiliser thus helping to mitigate against excess use by customers.
  - (c) All new manure storage structures to be completed in line with Department of Agriculture, Food and the Marine Specifications (S123) with leak detection systems. These systems will have a monitoring chamber which will be inspected on a weekly basis and recorded in line with EPA Licence requirements.
  - (d) All organic fertiliser to be allocated for use in accordance with S.I. 31 of 2014.
- **Located the proposed development on an existing pig farm site well away from existing settlements and development clusters.**

This development will have a positive effect on population in the area. The re-developed pig farm will secure the jobs of people employed directly/indirectly by the applicant's existing facilities, and Rosderra Meats wider pig business. The farm profitability of the customer farmers receiving pig manure is boosted by cheap fertiliser nutrients replacing imported energy demanding inorganic nutrients. This farm will have no adverse effect on tourism in the area of the site due to its remote location and comprehensive management and operational practices.

The agricultural and associated added value industries that have developed on the back of the Irish Agri-Food sector are of significant importance to the local and Irish economy and provides a significant source of employment. Within this the pig industry is a key component. The sector is a significant employer in rural Ireland with over 8,000 people employed. The recently published Food Harvest 2020 report has detailed that there is potential to develop the pig industry in Ireland and increase production by up to 50%. Given the implication of the Nitrates Directive in the more traditional pig farming areas it is expected that this development in the pig industry will be driven in areas that are currently less intensive and have greater access to tillage land, such as the proposed site.

### **Within the County;**

The proposed development site, effectively replacing the existing pig farm site, and site of the previously approved developments is located in County Offaly. Intensive agricultural enterprises have not developed in Co. Offaly to the same extent as other counties such as Cork, Cavan and Monaghan. The pig industry is a specialised farming activity with well established practices in place for the transport of pig manure to farmers in surrounding areas. The proximity of the existing and proposed developments to the customer farmers lands, and the extent of the requirement for the pig manure produced/to be produced on the farm, will be a significant competitive advantage to the enterprise.

Given the reduction in employment in other sectors of the economy, productive, efficient and sustainable agricultural activities, such as the existing and proposed developments, and the jobs dependant thereon, will be critical to the Irish economy.

These revised plans for this farm represent a proposed re-development as follows;

- Decommission existing pig housing and construct 3 No. new pig houses along with all ancillary structures and associated site works.
- Conversion of existing farm operation from a integrated pig farm with the capacity for 550 sows and pigs to market weight to operate as c. 1,250 sow breeding farm.

This is a significant development in terms of pig farm developments and the level of investment required. It will also be a significant boost to local employment in this area, and the local construction industries.

### **Within the Local Area;**

It has been demonstrated that the proposed development will have little or no adverse cumulative impact within the county.

The proposed development will result in a revision to proposed stock numbers on the site, from c. 550 Sows Integrated to a c. 1,250 sow breeding farm rearing pigs to 30 – 35 kg's.

A number of measures have been provided for so as to mitigate against any adverse cumulative impact. This in conjunction with any requirements placed on the proposed development by Offaly Co. Co. and/or the E.P.A. as a result of planning permission and/or E.P.A. Licence conditions will ensure that this proposed development will have no adverse environmental impact on the immediate area.

It is anticipated that the proposed development will not lead to a negative cumulative impact on the local environment due to the array of mitigation measures proposed and/or implemented, and the experience gained to date in managing the existing pig farm.

Mitigation measures where applicable are discussed in Section 7.13.

## 7. DESCRIPTION OF IMPACTS AND MITIGATION MEASURES

### 7.1. Soil and Subsoil Geology

#### (a) Site and Immediate area

The proposed development will have a significant effect on the soil in the development area, given the nature of the proposed development, i.e. the re-development and clearing of the area for the associated manure storage tanks, upon which the proposed houses will be built. This activity will have no significant adverse environmental impact on the environment at large and no adverse impact outside of the site boundary. Thus there are no specific mitigation measures that can be carried out or are deemed to be required. There are no habitats, flora, fauna, protected sites and/or other notable sensitive/valuable features within the boundary of the proposed site that are deemed to require special protection.

The material excavated from the site will be used as part of the amelioration works to be carried out at, and/or, around the site, or elsewhere on the farm. The currently proposed development will result in the excavation of an enlarged area to accommodate the proposed additional pig house.

#### (b) Customer farmlands

The customer farmland areas are eminently suitable for grass/crop production. They are environmentally safe for the application of organic fertilisers at the levels permitted by and in accordance with the requirements of S.I. 31 of 2014.

All fertiliser from this pig farm is to be allocated for use in accordance with S.I. 31 of 2014. All areas that are environmentally sensitive, as detailed in S.I. 31 of 2014, will be removed and/or an adequate buffer-zone applied to them. The principal impacts on the soil arise from,

1. Hydraulic loading
2. Chemical loading
3. Soil Structure damage.

In relation to hydraulic loading, the maximum rate of application proposed at present is c. 40m<sup>3</sup> /ha. This rate is minimal in relation to the permeability and infiltration capacity of the soils, which are also more than adequate to percolate the most intensive rainfalls. It is anticipated that there will be no surface run-off due to the omission of steeply sloping lands and strict adherence to the cordon sanitaires and application rates, ground and weather conditions at the time of application.

In relation to chemical loading of the soils, this development is promoting nutrient substitution rather than addition. The organic fertiliser from this farm will satisfy the growth requirements of the grassland/other crops. All organic fertiliser from this re-developed pig farm will be allocated for use in accordance with S.I. 31 of 2014, thus avoiding over enrichment of the farmland areas with nutrients.

It will also be advised that the application of organic fertiliser to farmland should not occur;

- In the period 15<sup>th</sup> Oct – 12<sup>th</sup> January (Offaly) or other such dates as specified in S.I. 31 of 2014.
- When soils are waterlogged, and/or ground conditions are unsuitable.

These are the times of year when the majority of soil structure damage can occur.

## **7.2 Ground Water**

### **(a) Site and Immediate area**

As previously stated, groundwater at/adjacent to the site is overlain by a considerable depth of low permeability overburden. According to G.S.I. records the aquifer classification of the site is referred to as a Locally Important Aquifer, Karsified, (Lk), with aquifer vulnerability for the area of the existing and proposed development classed as Moderate.

The main potential threat to ground water in the vicinity of the pig farm site is due to the storage of a relatively large volume of animal manures on the farm. In order to ensure that the proposed development does not impact on the groundwater adjacent to the pig farm site the following measures have been / will be implemented

- The proposed structures will be constructed to Department of Agriculture, Food and The Marine Standards for the construction of farm buildings.
- The provision of leak detection systems underneath all proposed manure storage tanks and the regular inspection of associated inspection points.
- The provision of a substantial amount of excess slurry storage capacity (almost 19 months capacity, increasing from the c. 6 months capacity as per the currently approved development), well above the 6 month minimum requirement will ensure that organic fertiliser is managed to the highest possible standard on the pig farm site.
- Collection of all soiled water in manure storage tanks.
- The proposed replacement buildings and structures to have finished floor levels approximately 1.8 metres above existing floor levels and proposed floor levels shall therefore be constructed approximately 1.3m – 0.7m above estimated 1 in 100 year and 1 in 1000 year flood levels
- Movement of animals on slatted passageway with manure storage tank underneath.
- The provision of a collection tank and concrete area at the slurry fill points to collect any spill/leaks that may occur when manure is being collected for transport off-site.



- The provision of a stormwater attenuation tank to mediate storm water discharge from the farm.
- All overground storage tanks (with the exception of water storage tanks) will be bunded.

#### **(b) Customer farmlands**

All organic fertiliser from this farm is, and will be, allocated for use in accordance with the Nitrates Directive, S.I. 31 of 2014. This legislation, which is applicable to all farmers in the country with regard to the application of all organic and inorganic fertilisers, places certain requirements on farmers with regard to the application of fertilisers to farmland.

The measures referred to in this directive include, but are not limited to the following,

- Maximum limits with regard to the application of organic and inorganic fertilisers, thus ensuring that there is no leaching of nutrients through the soil.
- Organic fertiliser shall not be applied to land within 200m, or such other distance as may be specified by the local authority, of any borehole, spring or well used for the abstraction of water for human consumption in a scheme supplying 100m<sup>3</sup> or more of water per day or serving 500 or more persons.
- Organic fertiliser shall not be applied to land within 100m, or such other distance as may be specified by the local authority, of any borehole, spring or well used for the abstraction of water for human consumption in a scheme supplying 10m<sup>3</sup> or more of water per day or serving 50 or more persons.
- Organic fertiliser shall not be applied to land within 25m, or such other distance as may be specified by the local authority, of any borehole, spring or well used for the abstraction of water for human consumption not referred to at b and c above.
- Organic fertiliser shall not be applied to land within 15m, of exposed cavernous or karstified limestone features (such as swallow holes and collapse features).
- Organic fertiliser shall not be applied to land within the prohibited periods as applicable.

Proper manure management on the site and on the customer farmlands as planned will result in little or no impact on the ground water in this area. The farm manager will ensure that all potential customer farmers are aware of the requirements of the nitrates directive with regard to the application of organic fertiliser to their farmland.

### 7.3 Surface Water

Ireland is fortunate in having a relatively abundant supply of fresh water, which constitutes a key resource in economic, amenity and aesthetic terms. The principle legislation governing water quality in Ireland is the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003), which transposed directive 2000/60/EC (the water framework Directive, WFD) into Irish Law.

#### (a) Site and Immediate area

A site specific Flood Risk Assessment in accordance with *The Planning System and Flood Risk Management Guidelines* was undertaken by IE Consulting as part of this EIA, and is contained in Appendix No. 19. This identified a limited flood inundation in 2008 on the site, and, estimated the 1 in 100 year and 1 in 1000 years flood levels as 61.56m OD and 62.14m OD respectively.

Following on from the findings of the Site Specific Flood Risk Assessment a number of mitigation measures were integrated into the overall design concept for the proposed development including;

- The proposed replacement buildings and structures shall have finished floor levels approximately 1.8 metres above existing floor ground levels and proposed floor levels shall therefore be constructed approximately 1.3m – 0.7m above estimated 1 in 100 year and 1 in 1000 year flood levels.
- Site specific stormwater attenuation proposals as detailed in the Site Specific Flood Risk Assessment and as shown on the plans of the proposed development have been proposed.
- Site specific sanitary effluent storage and removal proposals as detailed in the Site Specific Flood Risk Assessment and as shown on the plans of the proposed development have been proposed.

Overall, the flood risk to the proposed development are considered to be LOW. The proposed development works are not expected to have an adverse impact on the hydrological regime of the area and are therefore considered appropriate from a flood risk perspective.

As previously stated (Section 6.3(a)) all surface water from this proposed development will discharge through a single storm water discharge point(s), as indicated on the site plan contained in Appendix No. 3. This point will be visually inspected on a weekly basis for any signs of contamination i.e. visual and or odour, and sampled on a quarterly basis as required by the conditions of any EPA Licence that may be granted to this farm.

A stormwater attenuation tank will be installed to collect surface water. As previously stated the proposed development has been designed so as to minimise the amount of soiled water generated on the farm. The main area associated with the loading of pigs leaving the farm will be an enclosed slatted/concreted area ensuring that all soiled water enters the manure storage tanks.

**(b) Customer farmlands**

All organic fertiliser from this farm is, and will be, allocated for use in accordance with the Nitrates directive, S.I. 31 of 2014. This legislation which is applicable to all farmers in the country with regard to the application of all organic and inorganic fertilisers places certain requirements on farmers with regard to the application of fertilisers to farmland. The measures referred to in this directive include, but are not limited to the following,

- Maximum limits with regard to the application of organic and inorganic fertilisers, thus ensuring that there is no overland flow of nutrients.
- All fertiliser to be applied in a uniform manner ensuring an even spread.
- Organic fertiliser shall not be applied to land that is waterlogged, flooded or likely to flood, snow covered or frozen, when heavy rain is forecast within 48 hours, or, where the ground slopes steeply and taking into account factors such as proximity to waters, soil condition, ground cover and rainfall, there is a significant risk of causing water pollution.
- Organic fertiliser shall not be applied by the use of an upward facing splash plate or a rain gun.
- Organic fertiliser shall not be applied within 20 m of a lake shoreline.
- Organic fertiliser shall not be applied within 5 m of a surface watercourse.
- Organic fertiliser shall not be applied to land within the prohibited periods as applicable.

Proper manure management on the site and on the customer farmlands as planned will result in little or no impact on the surface water in this area. The farm manager will ensure that all potential customer farmers are aware of the requirements of the nitrates directive with regard to the application of organic fertiliser to their farmland. Independent water monitoring in this catchment is, and it is envisaged will be, conducted on an on-going basis by Offaly County Council, the E.P.A. and the Local Fisheries Board(s). Results relating to surface water quality for the relevant watercourses in close proximity to the pig farm are detailed in Appendix No.10.

**7.4. Air**

The proposed/existing customer farmlands and pig farm are non-urban based, the rural residents are accustomed to agricultural smells such as animal manure spreading, silage and silage effluent spreading. The farm has existed at this site for a long number of years.

The rural location of this farm, well isolated from neighbouring dwellings and potential odour sensitive locations, and with a long history as a pig farm site, makes this an ideal site for the purposes of the proposed development.

The present standard of management is high and will be improved upon as a result of the proposed development. The farrowing/weaner houses will be continuously washed,

disinfected and rested between batches, and, all houses are to be stocked at optimum levels and adequately ventilated, ensuring minimal odour emissions. Should technical advances be made in odour reduction the operator will adopt any economically viable practices.

Odours and emissions from modern well-managed pig farms are insignificant outside the confines of buildings and adjoining yards. Since manure will be removed only by vacuum there will be no odours created during manure withdrawal. A further means of mitigation against the possibility of malodour emanating from the site is the existing landscaping along the eastern boundary of the site. The screen of trees will prevent a breeze at or above, ground level from carrying gases to the surrounding area. This will help to ensure that there will be no significant impact on air quality in the local environment.

In addition to the mitigation measures already referred to, i.e. the use of low trajectory splash plates, and the proper and even allocation of organic fertilisers Rosderra Farms will recommend to all customer farmers that organic fertiliser from this farm should not be applied to lands adjacent to neighbouring dwellings/potential odour sensitive locations. A recommended set back distance of 100 meters from an isolated dwelling and/or 200 meters from a potential odour sensitive location/group of dwellings will be recommended.

Please refer to Appendix No. 12 for additional Meteorological data.

## 7.5. Climate

There are no dwellings, and no other potentially sensitive receptors located close to (within c. 250 m) the existing pig farm, to be affected by the existing, previously approved and/or proposed pig farm buildings. The wind direction is from the southwest. The rainfall levels are low, the annual rainfall for Birr Station (now closed) was on average 845 mm. The adequacy of storage (c. 19 months) proposed, will ensure that organic fertiliser is allocated for use only at times that is acceptable to the inhabitants of the catchment, and the regulatory authorities, i.e. Local Authority, E.P.A. and the Department of Agriculture, Food and the Marine.

Large livestock populations and nitrogen inputs to soil generate approximately one-third of all greenhouse gases in Ireland. The amount of *methane* emitted by livestock is a lot higher for ruminants such as cattle and sheep versus non-ruminants such as pigs. This is as a result of the different digestive systems.

$N_2O$  emissions can be divided into three areas,

- Direct from agricultural soils and from agricultural production systems.
- Indirect emissions which take place after nitrogen is lost from the field
- Emissions resulting from agricultural burning.

The fact that the farmers in the proposed customer farmer list are allocating organic fertiliser in accordance with the provisions of S.I. 31 of 2014, particularly with regard to volumes applied, weather and ground conditions at the time of spreading, splashplate type, etc., should ensure that emissions generated are kept to an absolute minimum. The provision of substantial manure storage facilities will facilitate the preference for spring application of organic fertiliser to minimise volatilisation. As a result this proposed

development will have no significant adverse effect on the climate in the area, and will improve activities at the farm when compare to the existing development..

Please refer to Appendix No. 12 for additional Meteorological data.

## **7.6 Landscape and Visual Impacts**

As previously indicated, the pig farm is located on c. 4 hectares of agricultural land in the town land of Ardra c. 0.6 km's northeast of Bracknagh. The general area and the area immediately adjacent to the existing/proposed site has a relatively flat topography similar to a significant area of this part of Co. Offaly and surrounding areas.

The proposed developments are to be carried out to replace the majority of the existing approved pig farm structures. This pig farm is located in an agricultural area remote from urban settlements and individual dwellings, and farming activities have been carried out on this site for a long number of years. The proposed development will be similar in nature and design to the existing approved structures, that are being replaced, and this in conjunction with the existing landscaping/ hedgerows and the remaining structures will help integrate this development into the existing site and surrounding landscape.

The site is generally well screened from public views and the impacts will be slight. As a result it is considered that mitigation measures to reduce any potential impacts will be fairly minimal. As previously detailed the site is located in an area classed as Low Landscape Character value.

The proposed mitigation measures will include:

- Retention of all existing boundary hedgerows except where removal is required to facilitate the proposed development;
- Reinforcement of existing hedgerows to the south and west of the site through implanting of gaps with plant species similar to those species found in these hedgerows.
- Additional tree planting using a mix of mainly deciduous trees where required to strengthen existing hedgerows.
- No leylandii or other such introduced species to be used in the planting mix.

Proposed finishes and colours for the new building have been selected to allow the new building integrate into the site and wider landscape as seamlessly as possible. Should the local planning authority request more suitable colours for the proposed buildings, the applicant will be happy to oblige and this may be requested by way of appropriate planning condition. This development is not located in or likely to adversely impact on any area listed as a scenic viewing point or scenic route as listed in the Offaly County Development Plan.



## 7.7 Noise

The noise from the development will be limited to that arising from the operation of ventilation equipment, blowers on feed delivery trucks and the noise generated by the pigs. Noise monitoring was carried out at a number of other pig farms by Bord Na Mona Environmental division on behalf of C.L.W. Environmental Planners Ltd. The results are contained in Appendix 15. Based on the results, as recorded during the monitoring events, it is not considered that noise resulting from activities at this site, at the proposed stocking rates, will have any significant impact on the local environment. While the proposed development will increase noise on the site in the short term due to construction activities on the farm, this increase will be insignificant outside of the confines of the site boundary.

Environmental noise resulting from activities at the site should not exceed 55dB  $L_{A,T}$  (30 mins) during daytime (07.00 to 19.00hrs), 50dB  $L_{A,T}$  (30 mins) during evening time (19.00 to 23.00hrs) and 45dB  $L_{A,T}$  (30 mins) during night-time (23.00 to 07.00hrs). Due to its rural location and the relatively low population density in the area, this pig farm will not create a disturbance or annoyance to anyone. All traffic and movements into and out from the site will predominantly occur during the normal working day.

## 7.8 Traffic

The proposed development will increase the traffic volume to and from the pig farm during construction. Thereafter traffic to and from the site will not alter significantly from that associated with the existing pig farm development as previously approved. The existing farm has operated without any significant adverse impact on the local road network, and without complaint from the local residents and/or the Local Authority. The additional traffic associated with construction activities will only last for a short period.

Traffic associated with the operation of the farm will be due to;

- Feed deliveries to the site (c. 3-5 load/week),
- The transport of organic fertiliser/manure from the farm (c. 11-12 load/week in the spreading season, i.e. 37 weeks), and,
- The transport of pigs from the farm (3 load out per week, increasing from 2 load in or out / week) and materials to and from the farm.

All other ancillary traffic such as vets, advisors, consultants, deliveries, waste removal etc. will not be significantly affected by the proposed development. Transport of dead animals from the farm to a rendering plant occurs weekly/fortnightly. The remainder of the traffic will be associated with staff movement to and from the site.

This pig farm has existed for a long numbers of years and there has been no indication of an adverse environmental impact due to the traffic flows. The volume of traffic to and from the site can be minimised by optimising load sizes. This can be achieved through the proposed specialisation in farming activities. Traffic to and from the farm will generally be in a planned ordered manner and will often be off-peak or staggered throughout the working day.

Due to the nature and location of the development the provision of public transport has not been considered. Adequate car parking facilities for the staff anticipated for employment at the proposed development has been/will be provided.

## **7.9 Flora and Fauna**

### **(a) Site and immediate area**

As previously described the site and adjoining area are agricultural lands that have been managed and developed as such over a long number of years. The area of the proposed site is an existing pig farm with the lands directly adjoining the site having been intensively farmed. The majority of the land in the surrounding area is used for agricultural production. The flora and fauna associated with this site has developed accordingly as the site has developed and changed over the years from grassland to a pig farm site. As the only habitat(s) present on the site are improved grassland and field drains (river Figile bounds the area of the proposed development) there are no specific unique habitats on this site that require specific protection.

Consideration has been given to the ecological value of any proposed planting and landscaping of the site. The use of non-native invasive exotic species such as rhododendron, cherry laurel, leylandii and dogwood, will not be permitted in the landscaping and redevelopment proposals. Ecologically appropriate planting species lists in accordance with Department of Agriculture Food and The Marine Specifications (S135 as contained in Appendix No. 14) will be consulted regarding any additional landscaping to be completed..

Information from the website of the National Biodiversity Data Centre reveals that there are no records of rare or protected species from within the 1km square (N5918) of the proposed development.

### **(b) Customer farmlands**

The customer farmland is/will be agricultural land comprising improved grassland swards and tillage crops As governed by the Nitrates directive organic fertiliser from this pig farm can only be applied to agricultural lands where a crop response, be it grassland/tillage/maize etc., is anticipated.

The local land for receipt of organic fertiliser from this farm is used for grassland (grazing or cut for silage) or tillage production. Traditionally animal manure has been applied to these lands as a source of fertiliser, and to replace imported energy inefficient inorganic fertiliser.

In order to prevent any adverse impact on flora and fauna in the area the following practices are to be implemented:

- Organic Fertiliser from this farm is not to be allocated to areas of woodland/scrubland habitat.
- Organic Fertiliser from this farm is not to be allocated within 10m of hedgerows

- Organic Fertiliser from this farm is not to be allocated within 5m of a watercourse or 20 m of a lake shoreline
- Organic fertiliser from this farm is not to be applied to areas where it is likely to adversely impact on a N.H.A., S.A.C. and/or S.P.A, or other such sensitive area.
- Organic fertiliser from this farm is not to be applied within 10 m of an archaeological feature.

There should be no negative impact on the flora and fauna of the area from activities associated with this development. It will be advised to the customer farmers that organic fertiliser spreading operations be carried out in accordance with Codes of Good Practice.

## 7.10. Special Policy Areas

### (A) Nationally Designated Environmental Areas

The location of the pig farm site, located away from Nationally Designated Environmental Areas, ensures that this pig farm will not have an adverse environmental impact on same. All customer farmland in receipt of slurry from this farm will allocate organic fertiliser in accordance with S.I. 31 of 2014 so as to ensure that there is no significant adverse impact on any of these areas.

The site is located >5km's from the Closest NHA or pNHA (Grand Canal) and is located outside of the catchment areas of same.

The attached screening report (see Appendix 13) concludes that there should be no negative impact on Natura 2000 sites (SPA's and/or SAC's) from activities associated with this development. It will be advised to the customer farmers that organic fertiliser spreading operations should be carried out in accordance with Codes of Good Practice.

The proposed developments will not adversely impact on the surrounding environment for the following reasons,

- The proposed development is essentially a refurbishment / consolidation of existing pig farming activities with an alteration in the farming system from an integrated unit to a breeding unit, with no net intensification and/or increase in organic fertiliser production.
- Significant mitigation measures including leak detection under all new structures, surface and ground water monitoring, significant excess manure storage capacity etc., have been provided for to minimise any potential adverse impact.
- The pig farm is located a reasonable distance away from any such areas, as identified in the County Development Plan.
- The proposed development will involve a significant investment in the upgrade of existing structures on the farm to improve the quality of building stock and manure storage capacity associated with the existing development.

- The development proposed will be carried out in a sustainable manner in compliance with animal welfare and environmental legislation and Offaly Co. Co. requirements and will operate under a revised licence from the E.P.A.
- The proposed development will improve the housing and manure storage facilities on the farm thus helping optimise manure management practices on the farm.
- All organic fertiliser arising from this farm is to be allocated in accordance with S.I. 31 of 2014.

### **7.11 A1 AA Screening Report Best Practice Measures**

Whilst the proposed development will have no impacts upon the integrity of any area that has been designated as a Natura 2000 site, it is usually best practice to undertake certain best practice measures during the construction and operation of any development. These measures will help to protect the local biodiversity of the surrounding area and ensure the protection of local water quality and wildlife.

### **Therefore the following measures have been recommended in the Appropriate Assessment Screening Report:**

#### **CONSTRUCTION**

- Site preparation and construction should adhere to best practice and should conform to the Inland Fisheries Ireland Requirements for the Protection of Fisheries Habitats during Construction and Development Works and River Sites ([www.fisheriesireland.ie](http://www.fisheriesireland.ie)).
- It is vital that there is no deterioration in water quality in the watercourses in the vicinity of the development. This will protect habitats, fish species and mammal species (such as the otter) that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the demolition and construction process must be implemented, including the provision of attenuation measures, silt traps or geotextile curtains to reduce and intercept sediment release into any local watercourses. The protection of water quality in this area is of utmost importance.
- There should be no discharges of contaminated waters to ground or surface waters from these developments. Post construction surface water run-off from hardcore / concreted / tarmacadam areas should be directed into a soak-pit. If soak-pit disposal is not viable or practical, then surface water run-off from these areas should be treated via serviced sediment and oil interceptor traps, prior to discharge into any watercourse.
- Existing structures at Ardra that are to be retained should be surveyed and checked to make sure that they sufficiently sound and will not result in the release of effluent and slurry.
- There must be no disturbance to the banks or riparian habitats along local watercourses.

- Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from watercourses. Refueling of machinery, etc., should be carried out in bunded areas.
- Any bulk fuel storage tank should be properly bunded with a bund capacity of at least 110% of that of the fuel tank.
- Stockpile areas for sands and gravel should be kept to a minimum size, well away from the drains and watercourses.
- The principles of Sustainable Urban Drainage Systems (SUDS) should be adhered to on site at all phases of construction and operation.
- The applicant must ensure that any excavated soil is used / disposed of responsibly. Its disposal should not lead to the loss or damage of any natural or semi-natural habitats elsewhere. It should not be spread close to any local watercourse as it may result in an increase in the sediment load of that watercourse.
- All works associated with the development should be confined to the proposed development site.
- All waste associated with the development should be disposed of in an environmentally friendly manner. Registered contractors should only be used.
- Any landscaping should involve the planting of native Irish species that are indigenous to the site. The characteristics of newly planted hedgerows should mimic those in the surrounding area.

## OPERATION

- The storage and handling of all wastes and fertilisers on site must be in accordance with S.I. 31 of 2014.
- The existing septic tanks on each site should be serviced regularly and emptied annually by a registered contractor.
- Details of the storage and management of any feed stuffs on site should be provided. They must be stored away from any drains and watercourses and handling should also take into account their potential to act as a pollutant in watercourses.
- All employees of the facilities should be aware of the sensitivity of the drains and streams in the locality.



**Customer Farmers**

In order to avoid any reductions in water quality within the River Barrow catchment as a whole, all organic fertiliser should be allocated for use in accordance with S.I. 31 of 2014 European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2014). The following measures may be considered and should be advised to the customer farmers.

- Slurry should only be applied to fields with an N and P requirement.
- Fields *within* any area that has been designated as an SAC, SPA or NHA should be excluded from land-spreading.
- A minimum buffer zone of 20m should be put in place and adhered to for areas which are *adjacent* to any area that has been designated as an SAC, SPA or NHA. These buffer zones should be increased depending on the gradient of the land.
- To avoid contamination of the local watercourses in areas identified for land-spreading, a minimum buffer zone of 10m for any main river channels and 5m for smaller watercourses should be adhered to at all times during the application of effluent. Buffer zones should be increased depending on the gradient of the land. In addition, when the waterbody is with 1km upstream of a water dependent designated site the buffer for a river should be increased to 20m while a stream should be increased to 10m.
- Effluent should not be applied within 3m of open field drains or ditches in accordance with Good Agricultural Practice for Protection of Water 2014 SI 31 of 2014.
- Land spreading should only take place when suitable climatic and environmental conditions exist. Spreading must be avoided on:
  - wet or waterlogged soils
  - land sloping steeply towards water courses
  - frozen or snow covered soils
- Effluent should not be applied in proximity of hedgerows and field margins. This will maintain the biodiversity of these areas and allow for a more natural ecological corridor.
- New technologies for spreading slurry that improve efficiency and minimize emissions should be considered, e.g., bandspreader, trailing shoe and the shallow injection technique.
- All spreading of organic fertiliser arising from the development must be in accordance with the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2014).

**(B) Amenity areas**

This proposed farm will not be located near to any Areas of High Amenity, Protected Views and/or Scenic Amenity Routes, etc., as listed in the Offaly County Development Plan. All farmers will be informed that spreading of manure from this farm should not occur near such areas, especially at weekends or holiday periods.

The existing and proposed developments are located in an area classified in the Offaly County Development Plan as being of low landscape character value, See Figure 6.6. The mitigation measures as previously proposed and the integrating of the proposed development within the existing and previously approved farmyard complex will ensure that there is no adverse visual impact on the surrounding area.

**(C) Cultural Heritage (Architectural and Archaeological Features)**

There are no buildings/structures of architectural significance located on or adjacent to the proposed site or likely to be impacted by the proposed development.

There is no evidence of any archaeological features at the site, and the existing pig farm / site of the proposed development is not located near, and/or likely to impact on any monuments or sites of archaeological interest as identified in the online database of the National Monuments Service. The closest recorded feature is located c. 0.6 km to the east of the site. While there is no evidence of existing archaeological features on the subject site consideration will be given to any potential archaeological features that may exist but have not yet been discovered. While this is unlikely given the disturbed nature of the site, after demolition of the existing pig houses all ground works associated with the development will be carefully managed.

**7.12. Population / Employment**

The proposed development will lead to the direct employment of 4 - 6 people in this area. Indirect employment will also be created through outside service employment for building contractors, repairmen, nutritionists, veterinarians, pork processors, hauliers and sales personnel, a spin off of this development. For each 100 sows farmed, 5 people are employed directly or indirectly in Ireland.

As previously stated agriculture is important to the economy of Co. Offaly. It is anticipated that employment in the traditional agriculture sectors will continue to decline, resulting in opportunities in farm diversification and off farm employment becoming critical to the survival of many rural communities." The proposed development will secure agricultural employment on the farm while at the same time improving the economics of the customer farmers existing farming activities.

The existing pig farm site and site of the proposed development is located well away from any of the larger settlement areas in the county, as detailed in the County Offaly Settlement Hierarchy contained in Figure 6.11. Therefore the proposed development will not impact on the residential amenity of these urban areas. The well being of the agricultural/pig industry (and the industries dependant thereon, including Rosderra Irish Meats) in the

county, and specifically in this area, is essential in halting the decline in rural employment. This activity contributes to the employment in rural communities and will therefore help stabilise the rural population.

The farmers utilising organic fertiliser from this farm will benefit from low cost fertiliser as a result of the Fertiliser Management Programme. The proposed development and existing activities have been planned and will be operated to the benefit of the applicant, the local community in terms of direct and indirect employment, agricultural economy and construction industry.

The Offaly County Development Plan encourages the development of appropriate agricultural enterprises; however appropriate activities will be required to have a minimal negative impact on the landscape and physical environment. It is felt by the applicant that the proposed development satisfies the requirements of Offaly Co. Co. as per the policies on Agriculture as outlined in the County Development Plan, as detailed below;

#### ***Agricultural Buildings***

*The provision of well located structures and facilities necessary for good and environmentally sound agricultural practice shall be supported by the Planning Authority. The suitability of a given proposal will be determined by the following factors:*

- *The provision of buildings to a design, materials specification and appearance and at locations which would be compatible with the protection of rural amenities. Particular sensitivity should be paid to developments therefore in sensitive landscapes as identified in the Landscape Character Assessment (Refer to Appendix No.VI);*
- *The comprehensiveness of information in relation to waste management with particular emphasis on developments within existing farm complexes having regard to the potential cumulative effects;*
- *The availability of an effective means of farm waste management to ensure nutrient balancing between application of farm wastes to land and the balanced uptake by agricultural use of land;*
- *The availability of measures to ensure good supervision in relation to the management of farm wastes including ownership of spreadlands or control of same through agreements capable of effective enforcement, and;*
- *Whilst the Planning Authority recognises the primacy in use terms of agriculture in rural areas and that the presence of individual housing should not impinge unduly on legitimate and necessary rural activity, regard should be had to the unnecessary proximity of major new farm complexes to existing residential development.*

These development plan policies recognise the important and varied role of agriculture within the economy of Co. Offaly. These policies serve to recognise and support development proposals that will enable farming to become more competitive, sustainable, environmentally and welfare friendly; adapt to new and changing markets; diversify into new agricultural opportunities; and broaden their operations to “add value” to their primary produce, while protecting the environmental and cultural heritage of the County.

The mitigation measures already taken with regard to site design and location, and the proposed mitigation measures to be taken as part of the planned operation of this farm, in addition to the requirements of Offaly Co. Co. and the Environmental Protection Agency

as detailed in the conditions attached to any grant of planning permission or revised Licence that may issue, will ensure that this farm operates with no negative impact on the landscape and/or physical environment.

### **7.13 Material Assets**

Resources that are valued and that are intrinsic to specific places are called 'material assets'. They may be of either human or natural origin and the value may arise for either economic or cultural reasons. The potential impact of the proposed development on archaeology / cultural assets has been discussed previously.

Material Assets that may potentially be affected by the proposed development include:

- **(A) Material Assets: Agricultural Properties including all agricultural enterprises**

The proposed development is on an existing pig farming site, in a predominantly agricultural area and development on these sites has previously been approved by Offaly Co. Co., and the E.P.A. The proposed development is surrounded by agricultural farmland, and the proposed development will not interact with any other farmland outside the confines of the site, except for the production of a valuable organic fertiliser which may be utilized by farmers as a replacement for chemical fertiliser.

The proposed development will require no additional lands to complete the proposed works as they will be completed in an already developed area. There will be no adverse impact outside of the development area.

- **(B) Material Assets: Non-agricultural Properties including residential, commercial, recreational and non-agricultural land.**

The proposed development has a longstanding history on the farm, is surrounded by agricultural lands and is located well away from any built up areas and/or development clusters. There are no residential dwellings within c. 250m of the proposed development sites. The development will not impact on adjoining property values given that there is an already established pig farm on the site operating for a long number of years.

- **(C) Material Assets: Natural or other resources including mineral resources, land and energy**

The proposed development will also involve the use of a limited amount of construction materials (including quarry products and other construction materials), however the extent of the development is limited in nature and the amount of resources required in the construction of the development, and potential adverse impact of same, is negligible when sourced from authorized sources.



The operation of the farm will require feed (classified as a renewable resource), energy and water. The applicant will operate modern feeding, ventilation and heating systems to minimize same.

The farm does not require any major modifications to the existing electricity supplies, water or road infrastructure in the area.

#### **7.14 Tourism**

Agriculture and tourism are the two most important indigenous industries to the economy of this area. A significant proportion of the rest of the economy of the area has arisen as ancillary services/businesses to these two industries. It is important therefore that these two industries can coincide and develop together for the good of everyone in the area.

Offaly's landscapes, cultural heritage and environment are an important asset both to the people of Co. Offaly and further afield, and as a source of tourism revenue to the county. Once manure spreading activities are carried out in accordance with the Codes of Good Practice and S.I. 31 of 2014, there will be no adverse environmental impact, except for the possible impact of odour. The odour impact associated with the application of animal manures (porcine or bovine) is a transient one that only lasts for 2-3 days. It has been recommended that there should be no allocation of organic fertiliser to lands in close proximity to areas frequented by tourists and/or during holiday periods, with a preference for spring allocation to minimise potential emissions and maximise nutrient uptake. This will be facilitated by the comprehensive manure storage to be provided on the farm.

Agriculture is an all year round industry whereas tourism is mainly a seasonal one with the majority of the trade occurring in late spring, through the summer and into early autumn. The pig farm site itself will have no impact on tourism in the area, however, the activity of manure/organic fertiliser spreading needs to be responsibly carried out to all the Codes of Good Practice.

#### **7.15 Cumulative Effects**

This farm has been operating at its existing size and on this site for a number of years and these activities have not had an adverse affect on the local environment, either independently, or, when assessed cumulatively with other activities in the area. The proposed development is insignificant in nature compared to the previously approved development as it will not significantly impact on the amount of traffic accessing the site and will have no significant anticipated impact on slurry production, however it will involve the construction of replacement pig housing on the farm, and a change in farm management from an integrated to a breeding farm.

This application is for planning permission for the development of this farm from an approved, 550 sow integrated pig farm to a 1,250 sow specialised pig breeding farm, rearing pigs to c. 35kg's. While this will result in an alteration to the numbers of stock held on the farm (i.e. an increase in breeding stock, and the removal of all finisher pigs) this will be completed with no cumulative intensification of activities on the farm and/or increase in organic fertiliser production.

As the organic fertiliser from the existing and proposed development is to be utilised by the customer farmers in line with the requirements of the Nitrates Directive (S.I. 31 of 2014) it will reduce the use of imported chemical fertilisers on these lands. Therefore it is anticipated that the cumulative impact within the county as a whole will be neutral.

The applicant has planned the proposed development in such a way that;

- Utilizes the existing pig farm site while carrying out a substantial investment and the implementation of an array of measures to minimize potential adverse environmental impact.
- Ensures no net increase in the permitted volume of organic fertiliser to be produced and demonstrates satisfactory arrangements for storage and management of organic fertiliser, in line with the Department of Agriculture, Food and the Marine, E.P.A. and Offaly Co. Co. requirements.
- This development will occur on an existing pig farm, well removed from existing settlements and development clusters.
- The proposed revision of this approved integrated pig farm to a specialised pig breeding farm will have no significant impact on the amount of organic fertiliser to be produced and/or the amount of traffic to and from the farm.

The reduction in employment in other sectors of the economy has had a significant adverse impact on the Irish economy. Productive, efficient and sustainable agricultural activities, such as the proposed development, and the jobs dependant thereon, will be critical to the local and wider Irish economy.

The existing farm operating on the proposed site, has been managed by and/or on behalf of the applicant and activities have not had an adverse affect on the local environment. This experience gained by the applicant, has demonstrated, and will help ensure, that the proposed development will not have an adverse impact on the local environment.

A number of measures have been instigated to mitigate against adverse cumulative impact.

- The site was selected so as to screen the pig farm from view and mitigate against any adverse visual impact. The proposed development is to be integrated with and/or replace the existing and previously approved developments.
- The proposed development is planned so as to organise the allocation of organic fertiliser to the grass/tillage lands in accordance with S.I. 31 of 2014. The proposed development will not have an adverse cumulative impact as all of the organic fertiliser is proposed to be used by the customer farmers to replace chemical fertiliser due to the significant increases in fertiliser price. In any event all allocations will be in line with S.I. 31 of 2014, whereby organic fertiliser will be used to replace chemical fertiliser, thus eliminating the potential for an adverse cumulative impact.
- Excess manure storage facilities are to be provided. Circa. 19 months manure storage facilities are to be provided as opposed to the minimum 6 months required.

- A proper stormwater/soiled water, separation, collection and drainage system is to be installed as part of the previously approved and currently proposed development so as to prevent any potential adverse impact on surface water quality in the area of the farm.
- Storm water drainage from the existing remaining buildings is to be upgraded when the demolition works have been completed.

This in conjunction with any requirements placed on the proposed development by Offaly Co. Co. and/or the E.P.A. as a result of planning permission and/or EPA Licence conditions will ensure that this proposed development has no adverse environmental impact on the immediate/wider area.

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## 8. Interaction of Effects

Human Beings, flora, fauna, soils, water, air, climatic factors, landscape, material assets and cultural heritage.

### 8.1 Inter-relationships

As a requirement of the European Communities (Environmental Impact Assessment) Amendment Regulations, 1999 (S.I. No. 93 of 1999) not only are the individual significant impacts required to be considered, but so must the inter-relationship between these factors be identified and assessed. Part II (Second Schedule) of the Regulations requires that the interactions between human beings, flora and fauna, soil, water, air and climatic factors, landscape, material assets and cultural heritage (incl. architectural and archaeological) be assessed.

The aspects of the environment likely to be significantly affected by the proposed redevelopment of this pig unit have been considered in detail in the relevant Chapters of the EIS. In order to demonstrate the areas in which significant interactions occur a matrix has been prepared, see figure 8.1 below.

Where any environmental element in the top row of the matrix (the receptor) is likely to be affected in any way by any element in the left most column (the impactor), which contains the list of aspects of the environment likely to be significantly affected by the proposed development these have been indicated. A distinction has been made between positive, negative and neutral impacts in this matrix.

**Figure 8.1 Matrix Indication Inter-relationships between EIA Factors**

	Soil	Water	Air & Climate	Landscape & Visual	Noise	Traffic	Flora & Fauna	Human Beings	Cultural Heritage	Material Assets
Soil		N	N/a	N	N/a	N/a	N	Pos	N/a	N/a
Water	N/a		N/a	N/a	N/a	N/a	N	N/a	N/a	N/a
Air & Climate	N/a	N/a		N/a	N/a	N/a	N	N	N/a	N/a
Landscape & Visual	N/a	N/a	N/a		N/a	N/a	N/a	N/a	N/a	N/a
Noise	N/a	N/a	N/a	N/a		N/a	N/a	N/a	N/a	N/a
Traffic	N/a	N/a	N	N/a	N		N/a	N	N/a	N/a
Flora & Fauna	N/a	N/a	N/a	N	N/a	N/a		N/a	N/a	N/a
Human Beings	Pos	Pos	Pos	Pos	N/a	N	Pos		Pos	Pos
Cultural Heritage	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a		Pos
Material Assets	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a	

Neutral	N
Positive	Pos
Negative	Neg
Not Applicable	N/a

### 8.1.1 Discussion – Positive Impacts

The following details the rationale for concluding that there is a net positive impact as a result of the inter-relationship between the factors listed below.

- Impacts of soil on Human Beings** – the proposed re-development of this existing pig farm will provide for a c. 1,250 sow breeding farm wholly contained within the existing site. This proposed development will provide a supply of pig manure which is a valuable fertiliser used by customer farmers to offset the cost of purchasing chemical fertiliser. The supply of organic manure will result in a financial gain to the recipient farmers and therefore a net positive impact of the development.
- Impacts of Human Beings on other factors** - The increase in wealth as a result of the proposed project would mean that there will be funds available to facilitate improvements through human endeavor in factors soil, water, air & climate, landscape & visual, flora & fauna and cultural heritage. Improvements in soil can be achieved through the addition of organic fertilizer, improvements in water through improved management and separation of storm and soiled waters, improvements in air through better manure management processes, improvement in flora & fauna through the provision of additional site landscaping and maintenance and improvement in cultural heritage by the availability of time and money for the enjoyment of heritage.

### 8.1.2 Discussion – Neutral Impacts

The following details the rationale for concluding that there is a neutral impact as a result of the inter-relationship between the factors listed below.

- Impacts of Soil on Water, Landscape & Visual and Flora & Fauna** – The organic fertilizer will have a positive overall impact on soil adding additional nutrients. However there is potential for leaching of these nutrients to water. This threat has been mitigated as all organic manure is to be allocated to customer farmers for use in accordance with S.I. 31 of 2014 and excessive application of this organic fertilizer will not occur. The positive impact on soils will potentially see a change in landscape through the improvement in field pastures, this may be viewed as a slightly positive impact overall and any changes will be minimal through compliance with S.I. 31 of 2014. The changes in soil may result in a reduction in diversity of flora & fauna in receiving spreadlands. However all lands proposed for receipt of organic fertilizer will comprise productive agricultural lands for the production of crops or improved grassland and organic manure will not be applied to areas of scrub or other habitats.



- **Impacts of Water on Flora & Fauna** – The additional organic manure generated together with any soiled water on site has the potential to negatively impact on water. A reduction in water quality in the area would have an effect on both local flora & fauna and flora & fauna in the wider river catchment area. This potential threat has been mitigated through the proposal to allocate all organic fertilizer for use in accordance with S.I. 31 of 2014. This is further mitigated through the provision of appropriate on site storm water drainage system and the provision of sufficient organic manure storage. These mitigating measures are sufficient to ensure that there is no negative impact on Flora & Fauna as a result of its relationship with water.
- **Impacts of Air & Climate on Flora & Fauna and Human Beings** – There is a potential threat to Flora & Fauna and Human Beings as a result of any impact on air due to the proposed project. The generation of mal-odour on site may have a slight negative impact on Flora & Fauna and in particular on human beings, however this is mitigated by the fact that the proposed developments are to occur on existing pig farm sites. Adequate mitigating measures have been described in this EIS to ensure that this threat does not materialise and thereby ensuring the potential impact is neutral. The provision of improved manure storage facilities and a preference for spring time application to minimize volatilization and maximize nutrient uptake will further minimize potential impact and is an improvement on the existing site.
- **Impacts of Traffic on Air & Climate, Noise and Human Beings** – The traffic generated as result of the proposal will have some impact on Air & Climate, Noise and Human Beings. However the change in traffic will be minimal and may be reduced as a result of more efficient work and logistic practices. It is not anticipated that the proposal will generate levels of additional traffic that would adversely impact on the environment and therefore the impact is considered neutral.
- **Impacts of Flora & Fauna on Landscape & Visual** – A reduction in Flora & Fauna as a result of the proposed development could impact on Landscape & Visual. Many habitat areas such as stands of trees, scrub or hedgerow are important landscape features. These enclose and form our landscape and are critical to retain the unique characteristics of the Offaly landscape. The mitigating measures provided for in this EIS will ensure that no such landscape features will be altered or removed as a result of this proposal, indeed any additional landscaping/tree planting etc. to be completed may actually provide additional habitat areas.
- **Impacts of Human Beings on Traffic** – an increase in prosperity as a result of the proposed development could see some small increase in traffic. This is slight in nature and overall any impact of Human Beings on Traffic is considered neutral.

## 8.2 Potential Impacts and Mitigation Measures

This section presents the significance of potential impacts following the implementation of mitigation measures. The E.P.A. classify impacts as follows:

Impact	Description
Negative	A change which reduces the quality of the environment.
Positive	A change which improves the quality of the environment.
Neutral	A change which does not affect the quality of the environment.
Temporary	Impact lasting for 1 year or less.
Short-term	Impact lasting for 1 – 7 years.
Medium-term	Impact lasting for 7 – 20 years.
Long-term	Impact lasting for 10 – 50 years.
Permanent	Impact lasting for >50 years.
Slight	An impact which causes changes in the character of the environment which are not significant or profound.
Significant	An impact which by its magnitude, duration or intensity alters an important aspect of the environment.

Interactions between the above environmental factors show the potential effect of the pig farm on the community and its environs. Human beings are the main impact receptor, flora and fauna being the other. The pig farm and its production processes will minimally impact upon the landscape, archaeology, terrestrial, water quality and climate described under the heading natural environment.

Traffic, air quality, noise, tourism and material assets are the factors that affect the community directly. This pig farm with its planned fertiliser substitution programme and its daytime work operation will have no significant impact on the rural community. There are a number of positive features associated with this pig farm:

- Employment in a rural area.
- Encourages customer farmers to utilise a locally produced source of organic fertiliser as opposed to energy inefficient chemical fertiliser.
- Cheap fertiliser for these farmers.

Category	Potential Significant Impacts	Potential Impact ~ Site	Potential Impact ~ Customer Lands	Duration	Mitigation	Residual Impact
Natural Environment	Terrestrial					
	Flora and Fauna	Destruction/loss of habitats.	Neutral	Long-term	Existing site of no significant ecological importance. Organic fertilizer on recipient farms to replace chemical fertiliser in accordance with S.I. 31 of 2014, no increase in production over that previously approved.	None
		Eutrophication	Neutral	Long-term	High quality of manure storage and storm water discharge systems. Nutrient balance / organic fertiliser substitution. Organic fertiliser to replace chemical fertiliser in accordance with S.I. 31 of 2014, no significant increase in production over that previously approved.	None
	Fresh Water / Groundwater	Risk of contamination	Neutral	Long-term	Adequate Storage & Routine Monitoring (Site) Fertiliser planning / Buffer Zones / Codes of Good Practice applied (S.I. 31 of 2014, Customer Farmlands)	None
	Landscape	Visual impact	Negative	Long-term	Existing pig farm site screened by existing hedgerows. Landscaping to complement existing hedgerows where required. Development to replace existing structures	None
	Archaeology	Disturbance of archaeological finds	Neutral	Long-term	No archaeological finds in previous site works carried out. Site not located near to any archaeological sites.	Neutral
	Climate	Contribution of greenhouse gases	Neutral	Long-term	Pigmeat production is less harmful than ruminant production in terms of methane. Organic manure will replace inorganic fertilisers eliminating manufacturing / transport energy use.	None

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Human Beings	Agriculture and land use	Fertiliser substitution	Neutral	Positive	Long-term	Improves profitability by reducing costs and improving output. Additional manure storage will help optimise manure usage	Slight
Community	Application of manure	Neutral	Neutral	Neutral	Long-term	Significant requirement for additional organic fertiliser. Manure allocated for use in accordance with S.I. 31 of 2014. No significant increase in manure volume.	None
	Vermin and pest infestation	Neutral	Neutral	Neutral	Long-term	Control programme practiced on farm.	None
	Fire Hazards	Negative	Neutral	Neutral	Long-term	Fire points / extinguishers / staff training	None
Traffic	Long-term increase in traffic.	Neutral	Neutral	Neutral	Short-term	In-ward/out-ward traffic during working hours. Minimise traffic volume by optimising load sizes. Additional Short term peak during construction, no long term increase over that previously approved.	None
Noise	Stock Noise at feeding/moving. Feed deliveries, slurry removal	Neutral	Neutral	Neutral	Short-term	Stock movement, feed deliveries and slurry extraction only during working hours. Remote Location.	None
Air	Generation of Odours	Neutral	Neutral	Neutral	Short-term	Adherence to Code of Good Practice to Reduce Odour Emissions at Spreading. Provision of slatted accommodation and washing between batches. Buffer zones from sensitive dwellings / areas. No increase in manure volume produced.	None
Tourism/ Amenities	Landscape	Neutral	Neutral	Neutral	Long-term	Site location will result in no adverse impact on the environment.	None
	Water Quality	Positive	Neutral	Neutral	Long-term	Improved Storage with leak detection system / Fertiliser planning / Buffer Zones / Codes of Good Practice applied / Monitoring	None
Material Assets	Reduction in material / residential quality	Neutral	N/A	N/A	Long/short-term	Site location will ensure that there is no negative impact on the material assets of the area.	None

## 9. ENVIRONMENTAL MANAGEMENT PROGRAMME

### 9.1. Introduction

The applicant will implement and maintain a comprehensive monitoring programme on site to provide maximum protection for the environment. This plan will involve maintaining an organic fertiliser register and visual inspection of all storm water outlets.

Implementing this programme will ensure that there are no negative environmental impacts from the activities associated with the operation of the pig farm. Any recommendations of the planning authority will be complied with in relation to this Environment Management Programme.

### 9.2. Slurry Management Programme

The applicant will implement and manage a programme for the allocation of organic fertiliser in each particular year. The main aspects of the Organic Fertiliser Management Programme are to ensure that the requirements of S.I. 31 of 2014 are met in full by the applicant. The provision of excess manure storage will facilitate the preference for spring time allocation of organic fertiliser to maximise crop nutrient uptake.

### 9.3. Environmental Monitoring Programme

#### (i) *Work schedule for current fixed structures.*

- Pig walkways are to be slatted and/or concreted where possible ensuring that there is a separate clean and dirty water system.
- Existing Stormwater drainage to be upgraded upon completion of the proposed decommissioning/demolishing works.

#### (ii) *Monitoring fixed structures for the following:*

- checking slurry storage facilities where possible for leaks, cracks, etc
- checking soiled water and clean water drainage systems for deterioration, leaks and blockages.

#### (iv) *Monitoring and analysis.*

- Storm water emission points to be visually inspected on a weekly basis.



## 10. Summary

### Summary

The proposal as outlined will make a significant positive contribution to the rural economy of Co. Offaly and will serve to increase employment and secure the viability and competitiveness of the applicant's existing farm.

The proposed development is the ideal scenario whereby the manure produced by the pigs housed in the proposed and existing developments, is used to fertilise the local farmland, and to replace the imported chemical fertiliser currently used.

The new farm buildings and ancillary structures will integrate successfully with the existing farm complex and its surroundings and will not give rise to any significant environmental effects.

The granting of permission to the proposed development would strongly accord with the provisions of the County Development Plan and will provide a significant boost to the economy of Co. Offaly. The proposed development will operate under the conditions imposed as part of any grant of planning permission and EPA Licence for this farm and the requirements as stipulated in animal welfare and nitrates regulations.

Signed:

  
Paraic Fay  
BAgrSc

Date

16/12/14

  
Barbara Olwill  
MRUP BAgrSc Dip EIA/SEA Mgmt

Date

16/12/14

C.L.W. Environmental Planners Ltd.  
The Mews,  
23 Farnham St.,  
Cavan Town,  
Co. Cavan.

Tel: 049-4371451  
Fax: 049-4371447  
Email: [info@clwenvironmental.ie](mailto:info@clwenvironmental.ie)

## **Appendixes**

<b>Appendix No. 1</b>	<b>~</b>	<b>Copy of Record 3 Form</b>
<b>Appendix No. 2</b>	<b>~</b>	<b>Site Location Map (1:2,500) Site Location Map (1:50, 00)</b>
<b>Appendix No. 3</b>	<b>~</b>	<b>Proposed development Site Layout, Engineers Drawings (Not to scale)</b>
<b>Appendix No. 4</b>	<b>~</b>	<b>Existing development Site Layout, Engineers Drawings (Not to scale)</b>
<b>Appendix No. 5</b>	<b>~</b>	<b>Legend for Engineers Drawings Slurry Storage Capacity</b>
<b>Appendix No. 6</b>	<b>~</b>	<b>Copy of EPA licence</b>
<b>Appendix No. 7</b>	<b>~</b>	<b>Animal Tissue Disposal</b>
<b>Appendix No. 8</b>	<b>~</b>	<b>Veterinary Waste Disposal</b>
<b>Appendix No. 9</b>	<b>~</b>	<b>Domestic Waste Disposal</b>
<b>Appendix No. 10</b>	<b>~</b>	<b>Local Water Quality Survey</b>

<b>Appendix No. 11</b>	~	
<b>Appendix No. 12</b>	~	<b>Met Data</b>
<b>Appendix No. 13</b>	~	<b>Screening Report - Article 6(3) &amp; (4) of the habitats directive 92 / 43/EEC Appropriate Assessment of a proposed project</b>
<b>Appendix No. 14</b>	~	<b>Landscaping Specifications</b>
<b>Appendix No. 15</b>	~	<b>Details relating to a number of noise surveys carried out on pig farms in the Cavan region.</b>
<b>Appendix No. 16</b>	~	<b>European Communities (Welfare of Farmed Animals) Regulations 2010 – S.I. 311 of 2010</b>
<b>Appendix No. 17</b>	~	<b>Copy of Nitrates Directive – S.I. 31 of 2014</b>
<b>Appendix No. 18</b>	~	<b>Construction and Demolition Waste Management Plan</b>
<b>Appendix No. 19</b>	~	<b>Flood Risk Assessment &amp; Stormwater Attenuation Proposals</b>

## ***APPENDIX No. 1***

### ***Copy of Record 3 Form***

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## 2014 RECORD OF MOVEMENT OF ORGANIC FERTILISERS<sup>1</sup>

Movement forms must be submitted before the end of each year i.e. details of exports which occur in 2014 must be submitted on this form by 31.12.14

**IMPORTER(S) PLEASE NOTE:** All importer details must be supplied. Importer breach of the 170kg limit N/pha may be liable to penalty. If the importer does not have a herd number, the area and LPIS number OR a map with adjacent LPIS number of the area question will be required.

Date of movement	Type of fertiliser from Tables 7 and 8 of the Regulations (e.g. cattle or pig slurry)	Nutrient content of fertiliser (from Tables 7 or 8)		Quantity moved (m <sup>3</sup> , litres, kg, specify units used)	Total N kg	Total P kg	Confirmation that details of movement are correct	
		N kg/m <sup>3</sup>	P kg/m <sup>3</sup>				EXPORTER	IMPORTER(s) (List if more than one importer)
							<b>Name:</b> <b>Herd No:</b> <b>Signature:</b>	<b>Name:</b> <b>Herd No:</b> <b>Signature:</b>
							<b>Name:</b> <b>Herd No:</b> <b>Signature:</b>	<b>Name:</b> <b>Herd No:</b> <b>Signature:</b>
							<b>Name:</b> <b>Herd No:</b> <b>Signature:</b>	<b>Name:</b> <b>Herd No:</b> <b>Signature:</b>
<b>Total N and P in organic fertilisers moved (kgs)</b>								

<sup>1</sup> A copy of this record must be maintained by both the exporter and importer. The "exporter" is the farmer sending organic fertiliser out of his/her holding. The "importer" is the farmer taking it in.

**PLEASE COMPLETE AND RETURN FORM TO: Nitrates Section, Department of Agriculture, Food & the Marine, Johnstown Castle Estate, Wexford.**

**PLEASE NOTE:** The only acceptable proof of postage will be a **Swift Post Receipt** or a **Registered Post Receipt**.



## ***Appendix No. 2***

***Site Location Map (1:2,500)***  
***Site Location Map (1:50,000)***

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### DESCRIPTION

MAP SHEET 15


 Authorised  
Internet Map

© Geirbhíocht Ordánais Éireann, 2014  
© Ordnance Survey Ireland, 2014



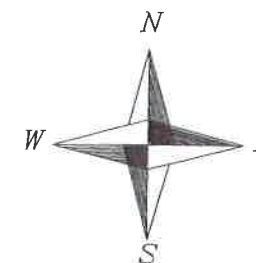
**CARROLL**  
Design & Surveying Ltd

## ***Appendix No. 3***

### ***Proposed development Site Layout, Engineers Drawings (Not to scale)***

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Pig Shed 1  
100m x 50m x 10m

Pig Shed 2  
100m x 50m x 10m

Pig Shed 3  
100m x 50m x 10m

Outline of buildings to be demolished



Carroll Design & Surveying  
Ltd.

Metrose Hse, Clonsigowan, Tullamore, Co. Offaly  
Phone/Fax: 057-93-43955 - Mobile 096-8524443

TITLE: PROPOSED PIG FARM  
AT ROSDERRA FARM, BRACKNAGH, CO. OFFALY  
SITE LAYOUT MAP

CLIENT: ROSDERRA FARM

DRAWN BY: SHANE CARROL

DATE: December 2014

SCALE: 1:500

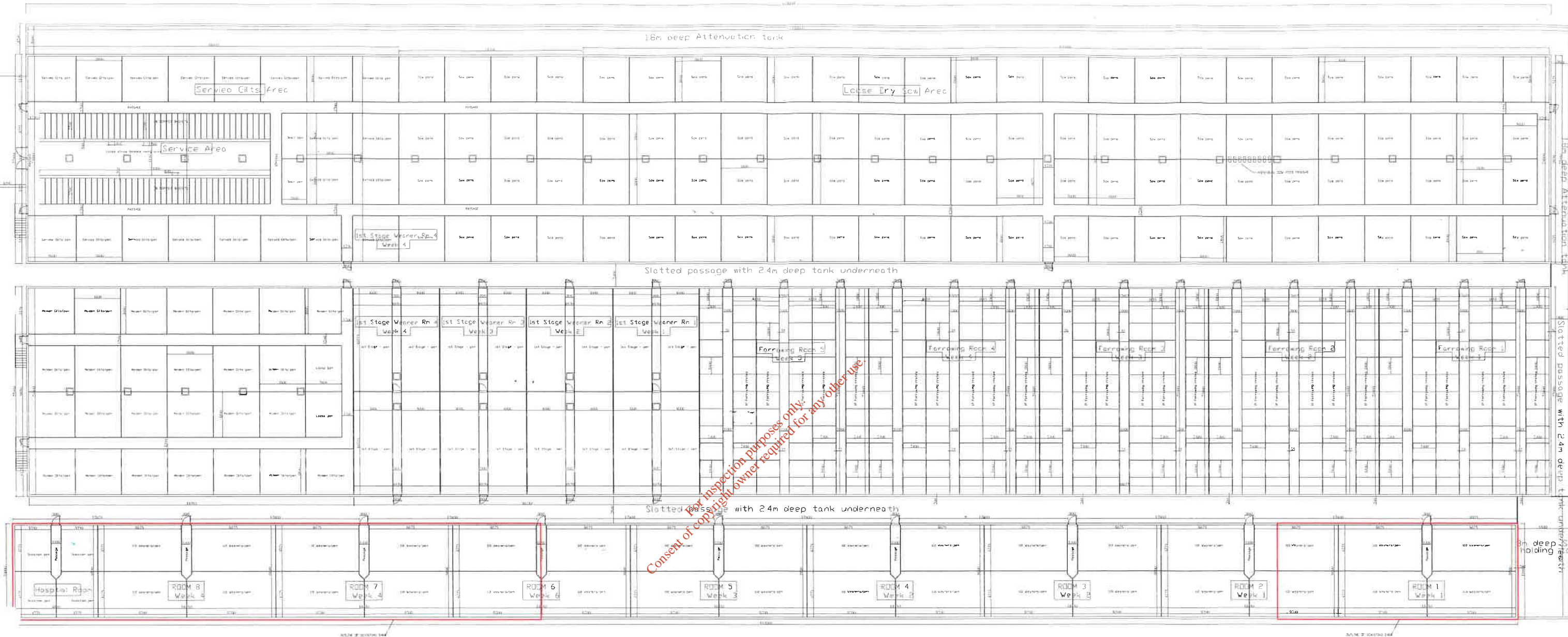
DRAWING NO: Planning Drawings 2014

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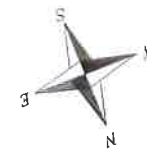
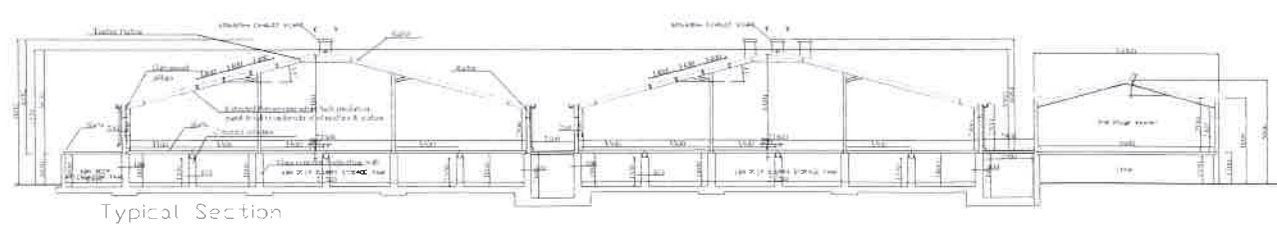


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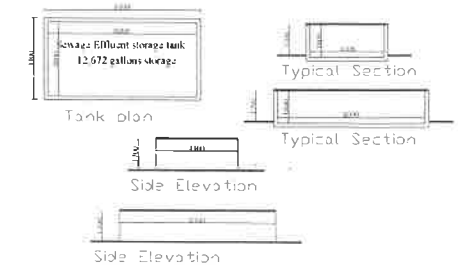




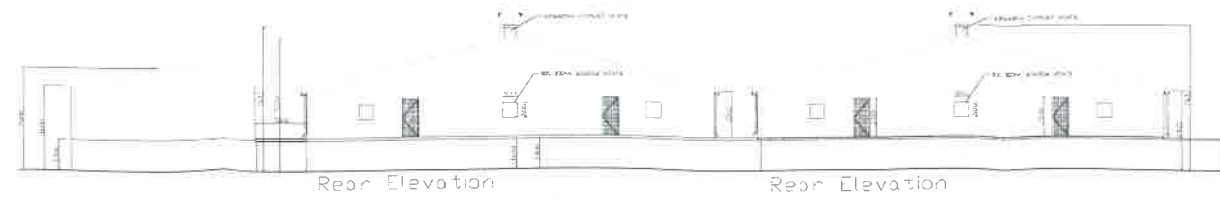
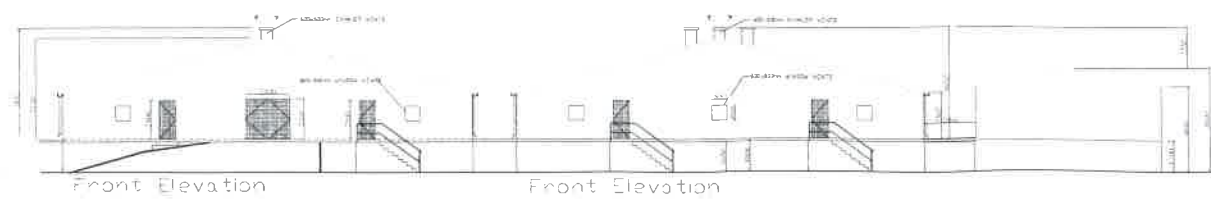
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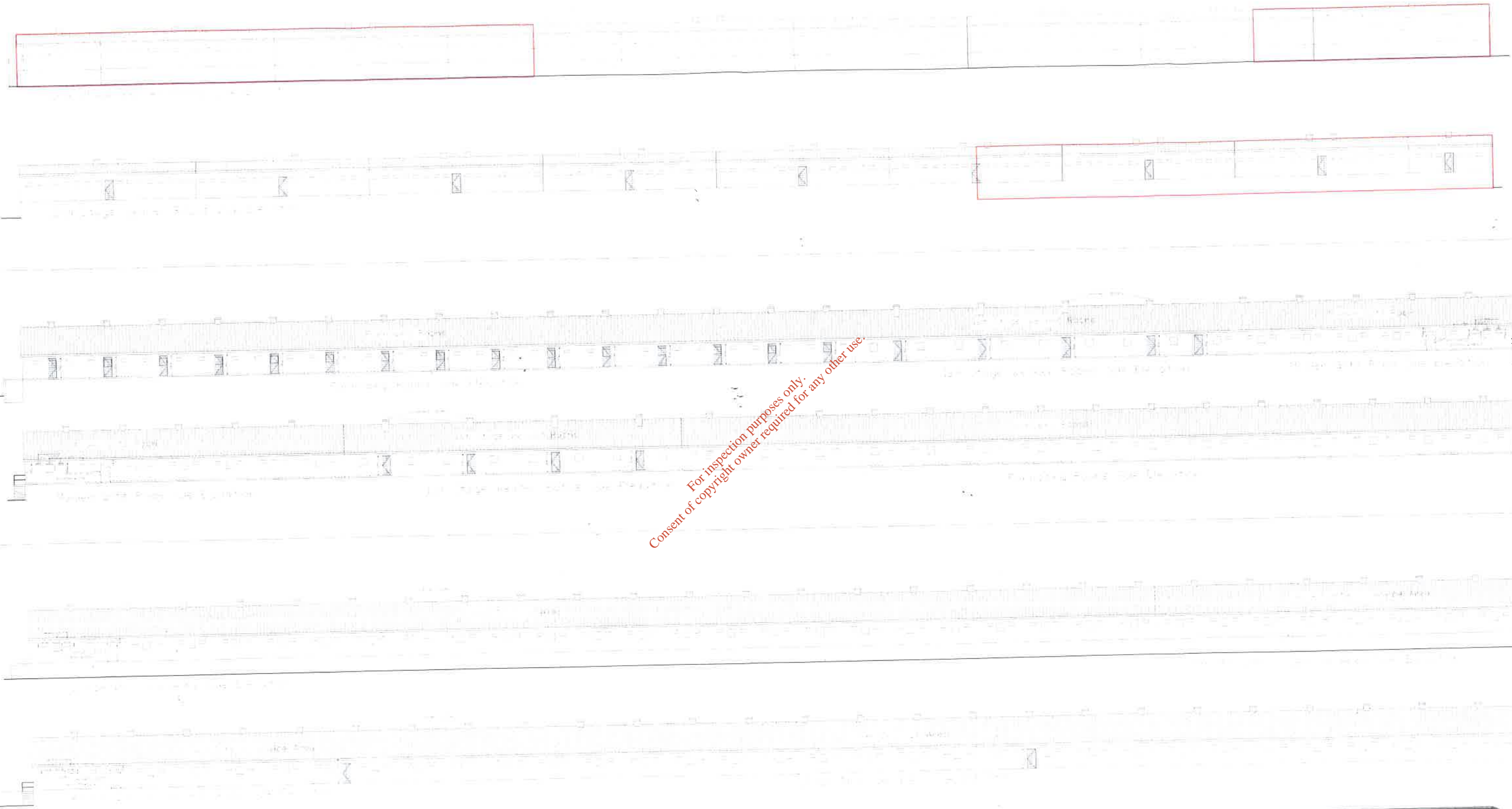
Floor Areas	
Loose Sow Shed floor area = approx. 3425 sq.m	
Slatted passage area = approx. 382 sq.m	
Farrowing Shed floor area = approx. 3425 sq.m	
Slatted passage area = approx. 445 sq.m	
Weaner Shed floor area = approx. 1500 sq.m	
Rear slatted passage area = approx. 44 sq.m	
Slurry holding tank area = approx. 67 sq.m	



Sewage Effluent storage tank area = approx. 57.6 sq.m



**Carroll Design & Surveying Ltd.**  
 Not used for Clonaghavan Tullymore Co Offaly  
 Project No: 037-93-42935 - Mobile 056-5394443  
 TITLE: PROPOSED UPGRADE OF EXISTING PIG FARM  
 AT ROSDERRA FARM BRACKNAGH PORTARLINGTON CO OFFALY  
 SIDE ELEVATIONS OF ALL BUILDINGS-REVISED  
 CLIENT: ROSDERRA FARMS  
 DRAWN BY: SHANE CARROLL  
 DATE: DECEMBER 2014  
 SCALE: 1:200  
 DRAWING NO: PLANNING DWGS ONLY  
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Exterior finish to be in accordance with the following:-  
1. All doors and windows to be finished with the following:-  
2. All doors and windows to be finished with the following:-

All doors to be finished with the following:-

1. All doors to be finished with the following:-  
2. All doors to be finished with the following:-

Exterior finish to be in accordance with the following:-  
1. All doors and windows to be finished with the following:-  
2. All doors and windows to be finished with the following:-

All doors to be finished with the following:-

1. All doors to be finished with the following:-  
2. All doors to be finished with the following:-

Contractor is responsible for the fixing of all dimensions, etc., before commencement and ensuring any discrepancies are noted to the Architect or Engineer's attention.  
The Contractor to be in full and total accord with the requirements of the 1997 and 1998 Building Regulations.

The Contractor shall include all work referred to in the following, though this may not necessarily be included in the drawing or specifications. Fully qualified tradesmen shall carry out all work and the Contractor shall be responsible for ensuring compliance with the requirements within their own trade at all times. All work, services, installations and methods of workmanship shall comply in full with the 1997 Building Control Act and the Building Regulations 1997 and any amendments of any kind at the time of construction. The builder shall monitor the work with regard to the regulations at all times. Trades shall show clear dimensions on site and if in doubt ask.

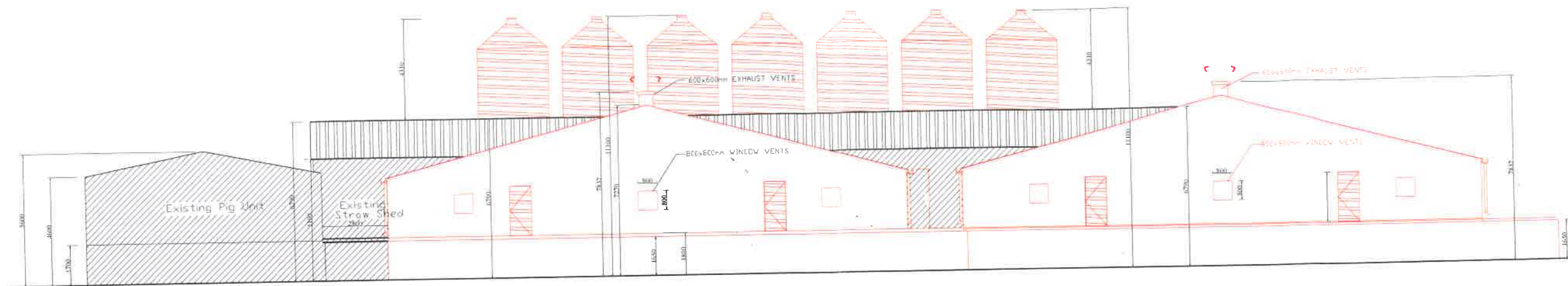
Carroll Design & Surveying  
Ltd.

Address: 100, Clonsilla, Clonsilla, Co. Wick  
Phone: 051-9545555 • Mobile: 086-5584443



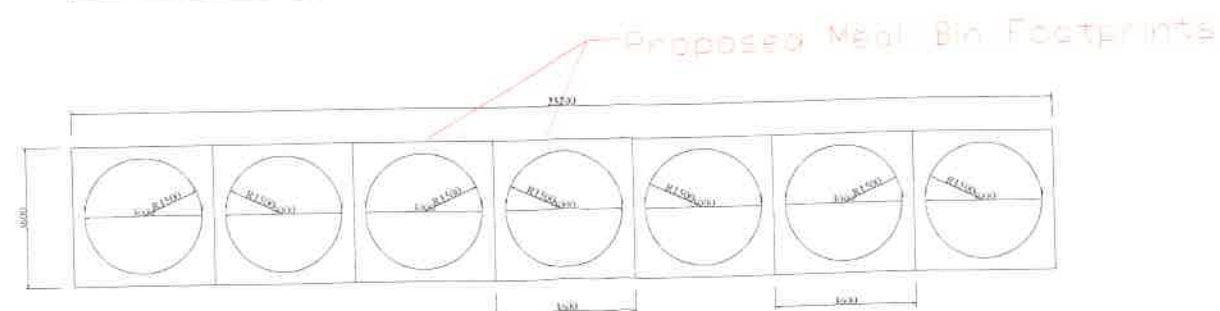
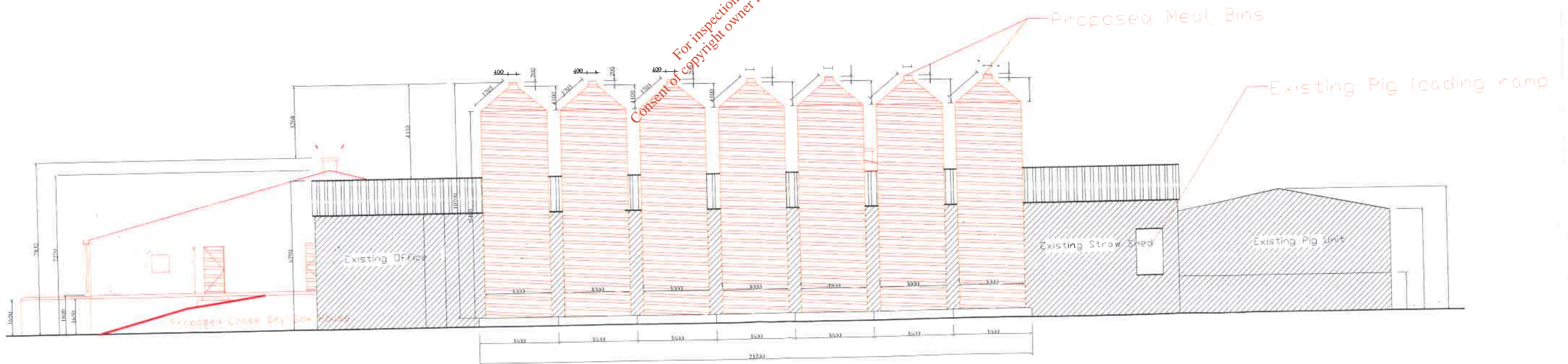
# CONTIGUOUS REAR ELEVATION

SHEET 1 OF 1



# CONTIGUOUS FRONT ELEVATION

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 Melrose Mse, Clonsilla, Co. Wick  
 Phone/Fax: 057-93-43955 - Mobile 086-6594443

TITLE: PROPOSED UPGRADE OF EXISTING MISE FARM  
 AT ROSDERRA FARM, BRACKNASH, PORTLINGTON, CO. DUBLIN  
 CONTIGUOUS ELEVATION

CLIENT: ROSDERRA FARMS

DRAWN BY: SHANE CARROLL  
 Mr. Building & Surveying Engineer

DATE: DECEMBER 2014

SCALE: 1:200

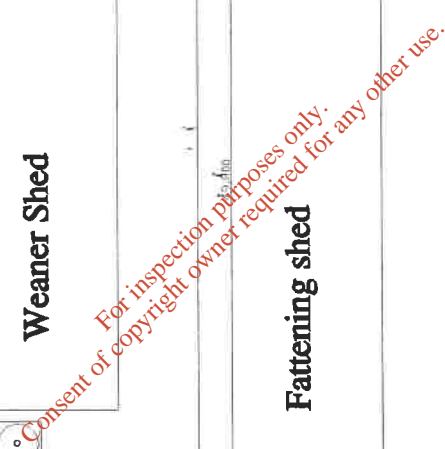
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## ***Appendix No. 4***

### ***Existing development Site Layout, Engineers Drawings (Not to scale)***

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### Buildings "A" to "J" to be Demolished

## EXISTING FARM LAYOUT

**Carroll Design & Surveying Ltd.**  
Melrose Hse, Cloneygowan, Tullamore, Co. Offaly  
Phone/Fax: 057-93-43958 - Mobile 086-8594443

**TITLE:** PROPOSED UPGRADE OF EXISTING PIG FARM  
AT BOSIDENLA FARM, BRACKENAGE, PORTLANDINGTON, CO. OFFALY  
EXISTING LAYOUT

CLIENT: ROSIERELA FARMES

**DRAWN BY:** SHANE CARROLL  
The Building & Service Engineering

DATE: DECEMBER 2014

SCALE: 1:200.

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Front Elevation



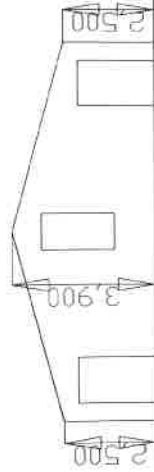
Side Elevation



Rear Elevation



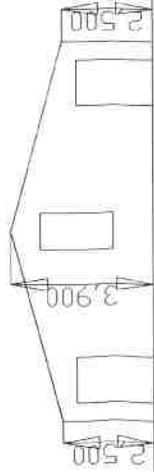
Side Elevation



Front Elevation



Side Elevation



Rear Elevation



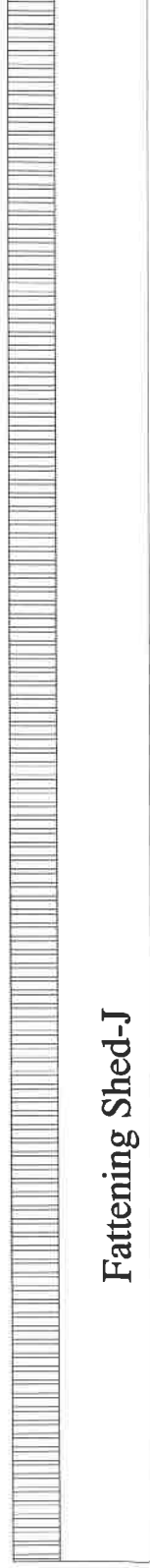
Side Elevation

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Fattening Shed-J

Side Elevation

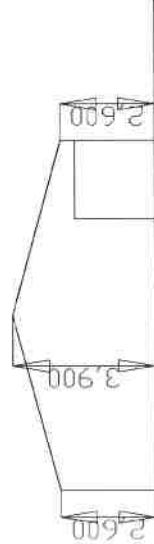


Fattening Shed-J

Side Elevation



Front Elevation



Rear Elevation

**Carroll Design & Surveying Ltd.**  
Melrose Hse, Clonsilla, Tullamore, Co. Offaly  
Phone/Fax: 057-93-43996 - Mobile 086-8594443

TITLE: PROPOSED UPGRADE OF EXISTING PIG FARM  
AT ROSDERRA FARM, BRACKNAGH, PORTLINGTON, CO. OFFALY  
EXISTING SHEDS TO BE DEMOLISHED

CLIENT: ROSDERRA FARMS

DRAWN BY: SHANE CARROLL  
Reg. Building & Services Engineering

DATE: DECEMBER 2014

SCALE: 1:200.

DRAWING NO: PLANNING DWGS ONLY.

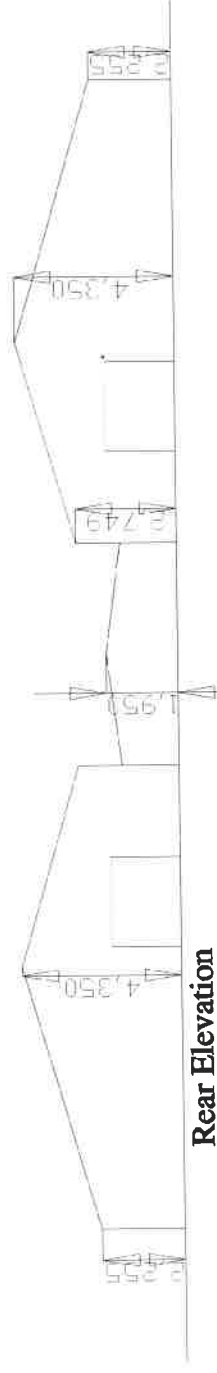
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Sows/Gilts/Boars Shed-A+B

Side Elevation

Sows/Gilts/Boars Shed-A+B

Side Elevation



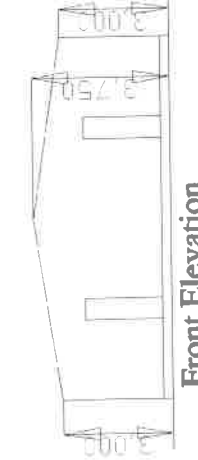
Farrowing Shed-C+D

Side Elevation

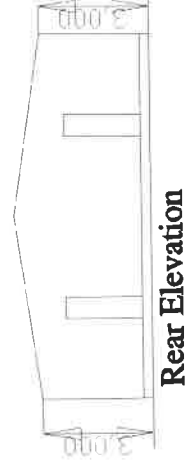


Farrowing Shed-C+D

Side Elevation



Side Elevation



Weaner Shed-E

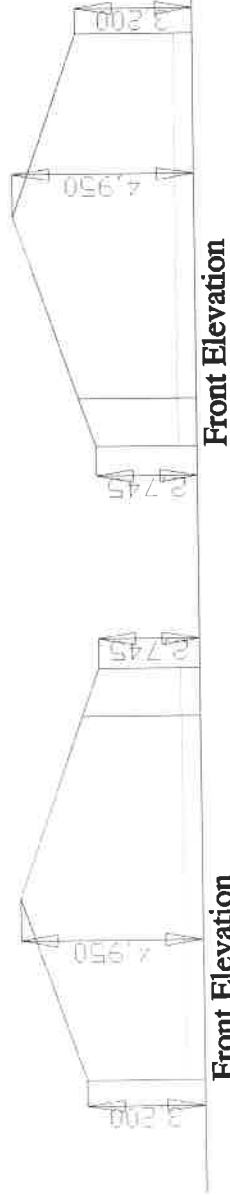
Side Elevation

Fattening Shed-F

Side Elevation

Fattening Shed-F

Side Elevation



Front Elevation

Carroll Design & Surveying Ltd.  
Melrose Hse, Clontarf, Tullamore, Co. Offaly  
Phone/Fax: 057-93-43956 - Mobile 096-0534443

TITLE: PROPOSED UPGRADE OF EXISTING PIG FARM  
AT ROSDUBHA FARM, BLACKNAGH, FORTARLINGTON, CO. OFFALY  
EXISTING SHEDS TO BE DEMOLISHED

CLIENT: ROSDUBHA FARM

DRAWN BY: BRIAN CARROLL  
Reg. Building & Planning Engineering

DATE: DECEMBER 2014

SCALE: 1:200

DRAWING NO: PLANNING DWG08 ONLY

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## ***Appendix No. 5***

### ***Legend for Engineers Drawings Slurry Storage Capacity***

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**Note: Houses proposed to be decommissioned not included.**

<b>House Ref. No.</b>	<b>Gross Slurry Storage (<math>M^3</math>)</b>	<b>Freeboard <i>m</i></b>	<b>Net Slurry Storage (<math>m^3</math>)</b>
Sow House	6,165.00	0.2	5,480
Farrowing/1st Stage Weaner House	6,165.00	0.2	5,480
2nd Stage Weaner House	2,550.00	0.2	2,250
External Passageways	2090.4	0.3	1,829
Concrete Reception/storage tank	201.00	0.3	181
Overground tank 1	1,746.00	0.2	1,663
Overground tank 2	1,320.00	0.2	1,257
<b>Total</b>	<b>20,237.40</b>		<b>18,140.00</b>

11,310.00

## 19.25

**Note 1: A freeboard allowance of 200m on roofed slatted tanks and 300mm on open tanks in accordance with S.I. 31 of 2014, has been allowed.**



## ***Appendix No. 6***

### ***Copy of EPA Licence***

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This licence was amended on 29<sup>th</sup> January 2009 under Section 82(11) and Section 96(1)(c) of the Environmental Protection Agency Acts, 1992 to 2007. The details on the amendment must be read in conjunction with this licence. The amendment document is entitled "Desktop Amendment A".

**LICENCE REG. NO. P0614-01 HAS BEEN TRANSFERRED**

Please note that licence Reg. No. P0614-01 was Transferred to Rosderra Farms Limited on 12/01/2009, For further information on this please refer to Transfer Notification on the Agency's website.

This licence was amended on 15 April 2013 under Section 96(1)(c) of the Environmental Protection Agency Acts, as amended. The details of the Amendment must be read in conjunction with this licence. The Amendment document is entitled Technical Amendment B.

This licence was amended on 16 December 2013 under Section S82A(11) of the Environmental Protection Agency Act 1992 as amended. The details of the Amendment must be read in conjunction with this licence. The amendment document is entitled "IED Amendment".



Headquarters,  
Johnstown Castle Estate  
Wexford, Ireland

## INTEGRATED POLLUTION CONTROL LICENCE

<b>Licence Register Number:</b>	614
<b>Licensee:</b>	Glanbia Farms Limited
<b>Location of Activity:</b>	Bracknagh Pig Unit
	Ardra
	Bracknagh
	County Offaly

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## ***Glossary of Terms***

The Agency	Environmental Protection Agency.
The Licensee	Glanbia Farms Limited, Bracknagh Pig Unit, Ardra, Bracknagh, County Offaly.
AER	Annual Environmental Report.
Annually	All or part of a period of twelve consecutive months.
BATNEEC	Best Available Technology Not Entailing Excessive Cost.
Bi – monthly	Every two months
BOD	5 day Biochemical Oxygen Demand.
Buffer zone	Area excluded from landspreading of waste.
Clients list Table 11B(i)	A list of farmers and associated farmlands used for the landspreading of slurry from the facility.
COD	Chemical Oxygen Demand.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with no more than 1 measurement on any one day.
Daytime	0800 hrs to 2200 hrs.
Daylight hours	Lighting up time plus an hour
dB(A)	Decibels (A weighted).
DO	Dissolved Oxygen.
EIS	Environmental Impact Statement.
EMP	Environmental Management Programme.
EWC	European Waste Catalogue (94/3/EEC as amended)
Freeboard	The difference in elevation between the maximum elevation of the slurry/manure and the minimum elevation of the storage tank.
ha	hectare.
IPC	Integrated Pollution Control.
Landspreading	The application of slurry/manure to farmland
Leq	Equivalent continuous sound level.
Local Authority	Offaly County Council.
Monthly	At least 12 times per year at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.



Noise sensitive location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Odour sensitive location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of odour at nuisance levels.
ppm	Parts per million.
Quarterly	All or part of any three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	Southern Regional Fisheries Board.
Slurry/manure	Animal faeces, urine, washwater and any associated feed or bedding.
Standard Methods	As detailed in "Standard Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 20th Ed. 1998, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed in writing with the Agency.
Waste disposal activity	Means any of the activities included in the Third Schedule to the Waste Management Act 1996.
Waste recovery activity	Means any of the activities included in the Fourth Schedule to the Waste Management Act 1996.
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with no more than one measurement in any one week.

## *Reasons for the Decision*

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and not contravene any of the requirements of Section 83(3) of the Environmental Protection Agency Act, 1992.

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, all objections received and the report of its inspectors.

## *Activities Licensed*

In pursuance of the powers conferred on it by the Environmental Protection Agency Act, 1992, the Agency hereby grants a licence to:

Glanbia Farms Limited, Bracknagh Pig Unit, Ardra, Bracknagh, County Offaly

under Section 83(1) of the said Act to carry on the following activities:

- the rearing of pigs in installations, whether within the same complex or within 100 metres of that complex, where the capacity exceeds 1,000 units on gley soils or 3,000 units on other soils and where units have the following equivalents: 1 pig = 1 unit, 1 sow = 10 units

at Bracknagh Pig Unit, Ardra, Bracknagh, County Offaly, subject to the following thirteen Conditions, with the reasons therefor and associated schedules attached thereto.

# Conditions

## Condition 1 Scope

- 1.1 The activity shall be controlled, operated, and maintained and emissions shall take place as set out in this Integrated Pollution Control (IPC) licence. All programmes required to be carried out under the terms of this licence, become part of this licence.
- 1.2 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in
- (a) a material change or increase in:
    - 1.2.1 The nature or quantity of any emission,
    - 1.2.2 The abatement/treatment or recovery systems,
    - 1.2.3 The range of processes to be carried out,
    - 1.2.4 The fuels, raw materials, products or wastes generated with adverse environmental significance, or
  - (b) any changes in:
    - 1.2.5 The site management and control with adverse environmental significance,
- shall be carried out or commenced without prior notice to, and without the prior written agreement of, the Agency.
- 1.3 This licence is for the purposes of IPC licensing under the EPA Act, 1992 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.4 Any reference in this licence to 'site' shall mean the plan area edged in red and labelled 'Site Location Map', Attachment 2.2, in the IPC licence application.
- 1.5 This licence relates to a facility with the capacity to house a maximum number of animals as described in *Schedule 1(i) Animal Numbers Housed at the Facility*.

Reason: To clarify the scope of this licence.

## Condition 2 Management of the Activity

- 2.1 Corrective Action
- 2.1.1 The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.
- 2.2 Awareness and Training
- 2.2.1 The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.
  - 2.2.2 Personnel/contractors performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required. The licensee must ensure

that contractors/agents involved in transport of waste are appropriately trained and/or experienced, and receive adequate supervision on site.

## 2.3 Responsibilities

- 2.3.1 The licensee shall ensure that a person in charge, as defined under the terms of the Environmental Protection Agency Act, 1992 shall be available on-site to meet with authorised persons of the Agency at all reasonable times.
- 2.3.2 The licensee shall be satisfied that the recipient of the slurry/manure is aware of the nutrient management plan (Condition 5.5.6), code of practice and buffer zones covering landspreading (Condition 5.5.8) and of the requirements for storage of the slurry/manure (Condition 5.5.2)

## 2.4 Communications

- 2.4.1 The licensee shall put in place a programme to ensure that members of the public can obtain information concerning the environmental performance of the licensee at all reasonable times.
- 2.4.2 For each full calendar year from the date of grant of this licence, the licensee shall submit to the Agency, by the 1<sup>st</sup> February of the following year, an AER which shall be to the satisfaction of the Agency. This report shall include as a minimum the information specified in *Schedule 4(i) Recording and Reporting to the Agency* and shall be prepared in accordance with any relevant guidelines issued by the Agency. In addition, the first AER report shall, separately from the calendar year report, include a report covering the period from the date of grant of the licence to the 31<sup>st</sup> December of the same year.

## 2.5 Vermin Control

- 2.5.1 The licensee shall maintain sufficient and continuous vermin control at the site.

*Reason: To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.*

## Condition 3 Notification

- 3.1 The licensee shall notify the Agency by both telephone and facsimile, if available, to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- 3.1.1 Any unauthorised emission from the facility.
- 3.1.2 Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.
- 3.2 The licensee shall include as part of the notification, the date and time of the incident, details of the occurrence, and the steps taken to minimise the emissions and avoid recurrence. The licensee shall make a record of any incident as set out in Condition 3.1 above. The notification given to the Agency shall include details of the circumstances giving rise to the incident and all actions taken to minimise the effect on the environment and minimise wastes generated.
- 3.3 A summary report of reported incidents shall be submitted to the Agency as part of the AER. The information contained in this report shall be prepared in accordance with any relevant guidelines issued by the Agency.

- 3.4 In the case of any incident as set out in Condition 3.1.2 above which relates to contamination of surface or groundwater, the licensee shall notify the relevant Regional Fisheries Board as soon as practicable after such an incident.
- 3.5 In the event of any incident, as set out in Condition 3.1.2 having taken place, the licensee shall notify the relevant Local Authority as soon as practicable, after such an incident.

*Reason: To provide for the notification of incidents and update information on the activity.*

## Condition 4 Emissions to Atmosphere

- 4.1 The licensee shall ensure that all operations on-site shall be carried out in a manner such that air emissions and/or odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the site boundary and at odour sensitive locations.

*Reason: To provide for the protection of the environment by way of control, limitation, treatment and monitoring of emissions.*

## Condition 5 Waste Management

- 5.1 Disposal or recovery of waste shall take place only as specified in *Schedule 2(i) High Risk/Hazardous Wastes for Disposal/Recovery* and *Schedule 2(ii) Other Wastes for Disposal/Recovery* of this licence and in accordance with the appropriate National and European legislation and protocols. No other waste shall be recovered on-site or disposed of/recovered off-site without prior notice to, and prior written agreement of, the Agency.
- 5.2 Animal tissue or carcasses stored on-site pending disposal shall be placed in covered, leak proof containers and shall at a minimum be removed weekly for disposal in accordance with *Schedule 2(i) High Risk/Hazardous Wastes for Disposal/Recovery*. This may be reduced to fortnightly removal during October to March with prior written agreement of the Agency.
- 5.3 Waste sent off-site for recovery or disposal shall only be conveyed by an agreed waste carrier, and only transported from the site of the activity to the site of recovery/disposal in a manner which will not adversely affect the environment.
- 5.3.1 Animal tissue or carcasses sent off site for disposal/recovery shall be transported in covered, leak proof containers.
- 5.3.2 The transport of slurry/manure via the public road shall be carried out in sealed containers such that no spillage can occur.
- 5.4 For wastes other than those destined for landspreading, a full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall as a minimum contain details of the following:
- 5.4.1 The names of the agent and carrier of the waste, and their permit details (to include issuing authority).
- 5.4.2 The name of the persons responsible for the ultimate disposal/recovery of the waste.
- 5.4.3 The ultimate destination of the waste.
- 5.4.4 Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.



5.4.5 The tonnages and EWC Code for the waste materials listed in *Schedule 2(i) High Risk/Hazardous Wastes for Disposal/Recovery* and *Schedule 2(ii) Other Wastes for Disposal/Recovery*, sent off-site for disposal/recovery.

5.4.6 Details of any rejected consignments.

A copy of this Waste Management Record shall be submitted to the Agency as part of the AER for the site.

5.5 Where wastes are destined for landspreading the following conditions apply:

5.5.1 Monitoring of available storage capacity for slurry/manure shall be undertaken as outlined in *Schedule 2(iii) Waste Monitoring*. Results shall be retained on site and available for inspection by the Agency at all reasonable times. The results shall be submitted to the Agency in a summary report included as part of the AER.

5.5.2 The licensee shall ensure that in cases where there is transfer of slurry or manure from the facility to storage provided on farms in the clients list table 11 B(i) of the application, that it is contained in a purpose built slurry holding structure adequate for the protection of groundwater and surface water. Such transfer during November to January shall not be undertaken without the prior written agreement of the Agency.

5.5.3 Landspreading from this activity shall only take place on lands approved in writing by the Agency. Additions to the approved lands must be agreed in advance in writing with the Agency.

5.5.4 Agreements between the licensee and recipients of wastes for landspreading shall not conflict with any conditions in this licence.

5.5.5 Soil monitoring shall be undertaken as outlined in *Schedule 3(iii) Soil Monitoring* and a summary report included as part of the Nutrient Management Plan.

5.5.6 All landspreading activities shall be undertaken in accordance with a Nutrient Management Plan which must be agreed in advance with the Agency. The Nutrient Management Plan shall be submitted by the 1<sup>st</sup> of February annually. Thereafter, alterations to this must be agreed in advance in writing with the Agency.

5.5.7 Where insufficient slurry/manure recovery capacity is identified in the Nutrient Management Plan (NMP), the licensee shall reduce pig numbers on-site to a level consistent with the recovery capacity available as agreed with the Agency.

5.5.8 Landspreading shall be carried out in accordance with *Schedule 2(iv) Buffer Zones for Landspreading of Organic Waste* and *Schedule 2(v) Code of Practice for Landspreading of Organic Waste*. All landspreading activities shall be carried out in such a manner as to avoid contamination of surface and groundwaters, and so as to minimise odour nuisance from the activity.

5.5.9 Landspreading shall be undertaken using soil injection, bandspreading, or low trajectory splashplate methods. Any other method must receive prior written agreement from the Agency.

5.5.10 A register of landspread slurry/manure ('Slurry/Manure Register') shall be maintained on site on a daily basis and shall be available for inspection by authorised personnel of the Agency at all reasonable times. This register shall include details of the following:

- (i) Date of despatch of slurry/manure.
- (ii) Name of person who transported the slurry/manure.
- (iii) Name of contractor/person who landspread the slurry/manure, when landspread by or on behalf of the licensee.

- (iv) Name of farmer who received the slurry/manure.
- (v) The quantity of slurry/manure in each consignment.
- (vi) The quantity of nitrogen and phosphorus in each consignment of slurry/manure.

The details from the register shall be reported to the Agency bi-monthly, and annually as part of the AER.

- 5.6 The licensee shall, within twelve months of the date of grant of licence, submit a report on the suitability of the existing septic tank and percolation area, for agreement with the Agency. The assessment shall fully characterise the site, tank and percolation trench. Where inadequacies in the existing system are identified then optimum treatment option(s) shall be reported including design, construction and maintenance details. The assessment shall have regard to the EPA Wastewater Treatment Manuals. The findings of the report shall be implemented in a timeframe to be agreed with the Agency.
- 5.7 Notwithstanding the foregoing, maintenance records for the domestic wastewater treatment system shall be kept by the licensee and available for inspection on-site. Landspreading of residual sewage sludge shall be in accordance with Condition 5.5 and the European Communities (Use of Sewage Sludge in Agriculture) Regulations, 1991 S. I. 183 of 1991.

*Reason: To provide for the disposal of waste and the protection of the environment.*

## Condition 6 Noise

- 6.1 Activities on-site shall not give rise to noise levels off site, at noise sensitive locations, which exceed the following sound pressure limits (Leq, 30 minute):
- 6.1.1 Daytime: 55 dB(A).
  - 6.1.2 Night-time: 45 dB(A).
- 6.2 There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.

*Reason: To provide for the protection of the environment by control of noise.*

## Condition 7 Protection of Surface Waters and Groundwaters

- 7.1 The licensee, shall provide and subsequently maintain, a rainwater collection and drainage system for all pig housing on-site.
- 7.2 The licensee shall divert all uncontaminated surface water runoff from roofs and non-contaminated impervious areas of the site, to the surface water drainage system. Following reconstruction/construction at the unit this drainage system shall discharge through two outfalls as identified in *Schedule 3(i) Surface Water Discharge Monitoring*. The licensee shall provide an inspection chamber at each outlet of the surface water drain
- 7.3 There shall be no unauthorised discharge of polluting matter to water.
- 7.4 The licensee shall monitor surface water discharges in accordance with *Schedule 3(i) Surface Water Discharge Monitoring* of this licence. This shall be reported annually as part of the AER.
- 7.5 In the event that any analyses or observations made on the quality or appearance of surface water should indicate that contamination has taken place, the licensee shall,

- (i) carry out an immediate investigation to identify and isolate the source of the contamination,
  - (ii) put in place measures to prevent further contamination and to minimise the effects of any contamination on the environment,
  - (iii) and notify the Agency, in accordance with Condition 3.1, as soon as is practicable.
- 7.6 The licensee shall ensure a minimum of six months slurry/manure storage capacity at the site. The licensee shall, within six months of date of grant of licence, submit proposals for additional storage capacity for agreement with the Agency. The proposals shall be implemented within eighteen months of date of grant of licence.
- 7.7 The licensee shall ensure that a freeboard of at least 100mm from the top of each covered slurry storage tanks and 500mm from the top of uncovered slurry storage tanks is maintained, as a minimum, at all times.
- 7.8 Underground, partly underground or overground concrete storage facilities shall conform to the Department of Agriculture, Food and Forestry specifications (S108, S123) or equivalent standard. Leak detection facilities shall be installed under all new tanks. Leak detection facilities shall be provided under reconstructed tanks, other than where agreed in writing with the Agency.
- 7.9 The licensee shall within six months from the date of grant of this licence submit a programme for agreement with the Agency on the assessment of under and over-ground effluent storage tanks which form part of the six month slurry storage capacity, pipelines and liquid feed storage tanks to ensure that all storage tanks and pipelines are assessed within twelve months of the date of grant of this licence and at least once every five years thereafter. In the case of new storage facilities installed on site, the assessment shall be undertaken prior to utilisation. A report on such assessment shall be included in the AER, together with proposals for repair of any significant defects found.
- 7.10 All sluice gates and concrete floors and passages shall be included on the site maintenance programme.
- 7.11 The licensee shall carry out ambient groundwater monitoring in accordance with *Schedule 3(ii) Groundwater Monitoring* of this licence. The results of such monitoring shall be reported annually as part of the AER.
- 7.12 The licensee shall within twelve months of the date of grant of licence, submit an Emergency Disposal Plan for a Category A disease outbreak, for agreement by the Agency. The plan shall contain a documented Emergency Response Procedure (Condition 12.1) and make provision for minimizing the effects of any emergency on the environment.
- 7.13 Where overground storage facilities are utilised, the licensee shall, with the agreement of the Agency:
- (i) provide tanks with two lockable valves in line,
  - (ii) provide an appropriate reception pit with level alarm,
  - (iii) provide an external safety ladder and safe access to facilitate inspection,
  - (iv) undertake measures as necessary for the protection of tanks from damage by vehicles or trailers,
  - (v) provide a partial earthen bund to ensure sufficient protection of the clean water outfall in event of tank overflow, collapse or leakage.
- 7.14 Fuel and whey tank storage facilities shall, within three months of date of grant of licence, as a minimum be bunded, either locally or remotely, to a volume not less than the greater of the following;
- (i) 110% of the capacity of the largest tank or drum within the bunded area,
  - (ii) 25% of the total volume of substance which could be stored within the bunded area.

Drainage from bunded areas shall be diverted for collection and safe disposal. All bunds shall be tested at least once every five years. A report on such tests shall be included in the AER.

*Reason: To provide for the protection of surface waters and groundwater.*

## Condition 8 Energy Use

- 8.1 The licensee shall carry out an audit of the energy efficiency of the site within twelve months from date of grant of licence. The licensee shall consult with the Agency on the nature and extent of the audit and shall develop an audit programme to the satisfaction of the Agency. The audit programme shall be submitted to the Agency in writing at least one month before the audit is to be carried out. A copy of the audit report shall be available on-site for inspection by authorised persons of the Agency and a summary of the audit findings shall be submitted to the Agency as part of the Annual Environmental Report. The energy efficiency audit shall be repeated at intervals as required by the Agency.

*Reason: To provide for the efficient use of energy in all site operations*

## Condition 9 Residuals Management

- 9.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

*Reason: To make provision for the proper closure of the activity ensuring protection of the environment.*

## Condition 10 Monitoring

- 10.1 The licensee shall carry out such sampling, analyses, measurements, examinations, as set out in Schedules:-
- Schedule 2(iii) Waste Monitoring,*
- Schedule 3(i) Surface Water Discharge Monitoring,*
- Schedule 3(ii) Groundwater Monitoring,*
- Schedule 3(iii) Soil Monitoring,*
- of this licence.
- 10.2 The licensee shall install and maintain a water meter on all water supplies serving the pig unit within six months from the date of grant of this licence. Records of water usage shall be maintained on site and a summary records report shall be submitted annually as part of the AER.
- 10.3 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the written agreement of the Agency following evaluation of test results. The licensee shall install on all emission points such sampling points or equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 10.4 The licensee shall provide safe and permanent access to the following sampling and monitoring points:

10.4.1 Waste storage areas on-site.

10.4.2 Surface water discharge points.

and safe access to any other sampling and monitoring points required by the Agency.

*Reason: To ensure compliance with the requirements of other conditions of this licence by provision of a satisfactory system of measurement and monitoring of emissions.*

## Condition 11 Recording and Reporting to Agency

- 11.1 The licensee shall record all sampling, analyses, measurements, examinations and maintenance carried out in accordance with the requirements of this licence.
- 11.2 The licensee shall record all incidents which affect the normal operation of the activity and which may create an environmental risk.
- 11.3 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint. The licensee shall submit a report to the Agency, bi-monthly, giving details of any complaints which arise. A summary of the number and nature of complaints received shall be included in the AER.
- 11.4 The format of all records required by this licence shall be to the satisfaction of the Agency. Records shall be retained on-site for a period of not less than seven years and shall be available for inspection by the Agency at all reasonable times.
- 11.5 Reports of all recording, sampling, analyses, measurements, examinations, as set out in *Schedule 4(i) Recording and Reporting to the Agency* in this licence, shall be submitted to the Agency Headquarters as specified in this licence. The format of these reports shall be to the satisfaction of the Agency. One original and three copies shall be submitted as and when specified.
- 11.6 All reports shall be certified accurate and representative by the licensee or other senior officer designated by the licensee.
- 11.7 All written procedures controlling operations affecting this licence shall be available on-site for inspection by the Agency at all reasonable times.
- 11.8 The frequency and scope of reporting, as set out in this licence, may be amended by the Agency following evaluation of test results.

*Reason: To provide for the collection and reporting of adequate information on the activity.*



## Condition 12 Accident and Emergency Response

- 12.1 The licensee shall ensure, within six months of the date of grant of this licence, that an Accident and Emergency Response Procedure is in place which shall address any accident and emergency situation which may originate on-site including a flood event. This Procedure shall include provision for minimising the effects of any accident and emergency on the environment.

*Reason: To provide for the protection of the environment.*

## Condition 13 Financial Provisions

### 13.1 Agency Charges

- 13.1.1 The licensee shall pay to the Agency an annual contribution of €3,926 or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Environmental Protection Agency Act, 1992. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, 2003 and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Environmental Protection Agency Act 1992, and all such payments shall be made within one month of the date upon which demanded by the Agency.
- 13.1.2 The licensee shall in addition discharge all costs incurred by the Agency in relation to reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency in regard to items not covered by the said annual contribution.

*Reason: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*

**Schedule 1(i) Animal Numbers Housed at the Facility**

Animal Class	Numbers <sup>Note 1, 2</sup>
Farrowing/Suckling Sows	110
Dry Sows	440
Maiden Gilts	100
Boars	15
Weaners	1900
Finishers	3000

Note 1: This excludes suckling pigs maintained on site.

Note 2: The Agency may accept a 5% increase in the number of finishers for a period not exceeding 4 weeks twice annually. Any other variation in these numbers requires prior written agreement from the Agency.

**Schedule 2(i) High Risk/Hazardous Wastes for Disposal/Recovery**

Waste Materials	Further Treatment On-Site	On-site Recovery, Reuse or Recycling	Method of Off-Site Disposal
Veterinary Waste	None	None	Agreed waste contractor
Animal tissue or carcasses	None	None	Agreed contractor
Tractor battery	None	None	To be agreed with the Agency
Fluorescent Tubes	None	None	To be agreed with the Agency
Other <sup>Note 1</sup>			

Note 1: No other hazardous waste shall be disposed of or recovered off-site without prior notice to, and prior written agreement of the Agency.

**Schedule 2(ii) Other Wastes for Disposal/Recovery**

Waste Materials	Further Treatment On-Site	On-Site Recovery, Reuse or Recycling <sup>Note 1</sup>	Method of Off-Site Disposal/Recovery
Domestic and canteen waste	None	None	Agreed disposal contractor.
Animal slurry/manure	None	None	Landspreading.
Other <sup>Note 2</sup>			

Note 1: The licensee may further treat, reuse, recycle or recover waste subject to the prior written agreement of the Agency.

Note 2: No other waste shall be disposed of or recovered off-site without prior notice to, and prior written agreement of the Agency.

### ***Schedule 2(iii) Waste Monitoring***

Waste Monitoring Reference(s): As labelled in Slurry and Dung Management Plan, Attachment 11A.1

Waste Materials	Frequency	Parameter	Waste Monitoring Reference
Slurry/Manure	Weekly	Available storage capacity	WS1 (overground tank 17) WS2 (overground tank 18) WS3 (tank at house 6) WS4 (tank at house 7) WS5 (dungstead 15) WS6 (dungstead 16)

### ***Schedule 2(iv) Buffer Zones for Landspreading of Organic Waste***

No organic waste shall be spread within the following buffer zones:

Area	Buffer zone (m)
Sensitive buildings (hospitals, schools and churches)	200
Dwelling houses	100 <sup>Note 1</sup>
Karst features	30
Lakes and main river channels	20
Small watercourses <sup>Note 2</sup>	10
Public Roads <sup>Note 2</sup>	10
Domestic wells <sup>Note 2</sup>	50
Public water supplies <sup>Note 2 &amp; Note 3</sup>	300 m or 100 days travel time

Note 1: This distance may be decreased with the written consent of the occupier and prior written agreement by the Agency.

Note 2: The above distances to be increased if the gradient is greater than 6% (1:17).

Note 3: The appropriate distance depends on vulnerability and groundwater flow direction.

### **Schedule 2(v) Code of Practice for Landspreading of Organic Waste** <sup>Note 1</sup>

<b>Spreading shall not take place:</b>	
<ul style="list-style-type: none"> <li>On wet or waterlogged ground.</li> <li>On frozen or snow covered ground.</li> <li>On exposed bedrock.</li> <li>Where surface gradients are excessive (preferably &lt;18% (1:5)).</li> <li>On fields that display cracks over pipe or mole drainage systems.</li> <li>On fields that have been pipe or mole drained or subsoiled over a pipe or mole drainage system in the last 12 months.</li> <li>During November to February inclusive except with the agreement of the Agency.</li> <li>Outside daylight hours.</li> <li>In a manner which would have an adverse effect on a National Monument.</li> </ul>	
<b>Loadings:</b>	
<ul style="list-style-type: none"> <li>Regardless of the dilution factor, the maximum hydraulic loading per single application shall not exceed 25 m<sup>3</sup> per hectare on shallow limestone soils and in no case shall exceed 50 m<sup>3</sup> per hectare.</li> <li>Application of slurry/manure shall not be made on soils with a Morgan's P test in excess of 10 mg P/litre sampled to a depth of 10 cm.</li> </ul>	
<b>Organic Waste application shall be in accordance with the following guidelines:</b>	
<ul style="list-style-type: none"> <li>Landspreading on lands with extreme groundwater vulnerability ratings <sup>Note 2</sup> would be considered Not Generally Acceptable.</li> <li>Application shall be made such that the rate of application of nitrogen from organic wastes does not exceed 210 kg N/ha per annum subject to statutory requirements.</li> <li>No application on tillage land left fallow for the winter.</li> <li>Landspreading shall be in accordance with the current Teagasc nutrient recommendations or the current Department of Agriculture and Food, REPS recommendations.</li> <li>No application when the risk of causing odour nuisance to the public is greatest e.g. Sundays or public holidays.</li> <li>No application during meteorological conditions which increase the risk of odour nuisance.</li> <li>No application where significant rain is forecast within 48 hours.</li> </ul>	

Note 1: This Code of Practice may be amended by the Agency as further environmental information becomes available.

Note 2: As defined in *Groundwater Protection Schemes*, DoELG/EPA/GSI joint publication 1999.

### **Schedule 3(i) Surface Water Discharge Monitoring**

Emission Point Reference No's.:

SW1 (Storm water outfall at eastern boundary of site)  
SW2 (Storm water outfall at south eastern boundary of site)

Parameter	Monitoring Frequency	Analysis Method/Technique
Visual Inspection	Weekly	Not Applicable
COD or BOD	Quarterly	Standard Methods

### Schedule 3(ii) Groundwater Monitoring

Monitoring Point Reference No's.:

GW1, well located on-site.

Parameter	Monitoring Frequency	Analysis Method/Technique
Nitrate	Annually	Standard Methods
Total Ammonia	Annually	Standard Methods
Faecal coliforms	Annually	Standard Methods

### Schedule 3(iii) Soil Monitoring

Monitoring Point Reference No's. <sup>Note 1, 2</sup>:

For all spreadlands utilised in this IPC licence

Conditions	Monitoring frequency	Analysis Method/Technique <sup>Note 4</sup>
Where no soil test available	Within 12 months of grant of licence	Morgan's P test <sup>Note 3</sup>
Where soil test $\leq 10$ mg P/litre	Every 3 years	Morgan's P Test

Note 1: Additional sample monitoring locations may be required if the spreadlands are altered.

Note 2: Each sample shall be representative of a maximum area of 4 ha except where uniform cropping and landuse has been in place for the previous 5 years or more. In the latter situation a sample area of 12 ha is acceptable. Each sample shall be taken in accordance with the Teagasc soil sampling guidelines.

Note 3: M Peach & L English (1944) 'Rapid micro-chemical tests', Soil Science 57: 167.

Note 4: Soil analysis shall only be conducted by Department of Agriculture, Food and Rural Development approved laboratories.



### ***Schedule 4(i) Recording and Reporting to the Agency***

Completed reports shall be submitted to:

The Environmental Protection Agency  
P.O. Box 3000  
Johnstown Castle Estate  
Wexford

**or** Any other address as may be  
specified by the Agency

Reports are required to be forwarded as set out below:

#### **Recurring Reports:**

Report	Reporting Frequency	Report Submission Date
Slurry/manure register	Bi-Monthly	Ten days after end of the two months being reported on.
Complaints (where they arise)	Bi-Monthly	Ten days after end of the two months being reported on.
Nutrient Management Plan	Annually	By the 1 <sup>st</sup> of February annually.
Annual Environment Report (AER)	Annually	By February 1 <sup>st</sup> , 2005 and each year thereafter.
Tank and pipeline assessment and inspection report	Every 5 years	Twelve months from the date of grant of licence; thereafter as part of the AER.

Annual Environmental Report Content
<p>Waste Management Report (arising from Condition 5) including details of the Waste Management Record, Waste Monitoring (Available slurry/manure storage capacity), and Slurry/Manure Register</p> <p>Water use monitoring</p> <p>Feed composition and usage</p> <p>Nutrient Management Plan</p> <p>Ambient soil monitoring report</p> <p>Groundwater monitoring report</p> <p>Surface water discharge monitoring</p> <p>Tank and pipeline assessment and inspection report (Every five years)</p> <p>Bund Inspection test (Every five years)</p> <p>Reported incidents summary</p> <p>Complaints summary</p> <p>Energy efficiency audit</p>

**Once-off Reports:**

Report	Report Submission Date
Septic tank system suitability assessment	Within twelve months from date of grant of licence
Proposal for additional storage capacity	Within six months from date of grant of licence
Tank and pipeline assessment and inspection programme	Within six months from date of grant of licence
Emergency Disposal Plan	Within twelve months of the date of grant of licence
Energy Efficiency audit proposal	One month prior to audit

Signed on behalf of the Agency

Gerry Carty

\_\_\_\_\_  
Director/Authorised Person

Dated this 21<sup>st</sup> day of November 2003

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## ***Appendix No. 7***

# ***Animal Tissue Disposal***

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**Waterford Proteins**

**Rosderra Farms: Bracknagh Pig Farm  
Ardra  
Bracknagh  
Co Offaly.**

**28/10/2014**

**To whom it may concern,**

We wish to confirm that we collect and dispose of pigs from the above named unit on a regular basis.

The pigs are contained in 240 litre or 660 litre bins.

Our highly efficient plant based in Waterford, allows us to ensure environmental integrity is maintained throughout processing. Our site is EU approved and operates to the highest standards required by EU regulations.

These standards are regularly monitored by the EPA under IPC licence no.P0040-02.

We pride ourselves on having a good reputation in the Rendering Industry and we have been certified under EU Directive 1069/2009, which governs the industry. The approval number allocated to our premises is R919

If you require any further assistance, please do not hesitate to contact me.

**Yours faithfully,**

**Peter O' Gorman**

**General Manager**

Christendom  
Ferrybank  
Waterford  
Ireland

T. +353 (0) 51 833 034  
F. +353 (0) 51 833 862

Anglo Beef Processors Ireland  
T/A Waterford Proteins  
  
Directors: L. J. Goodman,  
P. Finnerty, D. Murphy.

## ***Appendix No. 8***

# ***Veterinary Waste Disposal***

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## WASTE COLLECTION PERMIT

### Waste Management (Collection Permit) Regulations, 2007 Waste Management (Collection Permit) (Amendment) Regulations 2008

Offaly County Council as the National Waste Collection Permit Office being a nominated authority under Section 34(1)(aa) of the Waste Management Act 1996, has granted a waste collection permit to:

**Applicant Name:** **SRCL Limited** (herein called the permit holder)

**Trading As:** **Veterinary Environmental Management**

**Permit Number:** **NWCPO-09-01178-02**

**Address:** **430 Beech Road Western Industrial Estate Naas Road**

**Valid From:** **5<sup>th</sup> September 2012**

**Valid to and Expires on:** **4<sup>th</sup> September 2017**

The permit holder may appeal the decision of Offaly County Council as the National Waste Collection Permit Office, to grant this waste collection permit in accordance with Section 34(9)(a) of the Waste Management Act 1996, to the Judge of the Tullamore District Court, being the District Court in which the principal offices of Offaly County Council is situate, within one month of the date of this permit.

Offaly County Council as the National Waste Collection Permit Office, may at any time review, and subsequently amend the conditions under Section 34(6) of the Waste Management Act 1996 and the Local Authority will give notice in writing of such intention to the permit holder. Otherwise an application for a review of this permit shall be made at least 60 working days prior to the expiry date of this permit to the **National Waste Collection Permit Office, Offaly County Council, Áras an Chontae, Charleville Road, Tullamore, Co. Offaly**. This permit may be revoked under Article 29 of the Waste Management (Collection Permit) Regulations, 2007 and the Waste Management (Collection Permit) (Amendment) Regulations, 2008.

The permit holder, subject to the attached schedule of conditions is authorised by this permit to only collect the waste type(s) specified in Appendix A within the Local Authority areas specified in Appendix D, and to transfer waste to the facilities outlined in Appendix B, using vehicle(s) specified in Appendix C.

Signed: \_\_\_\_\_

*[Signature]*

Administrative Officer

Date: \_\_\_\_\_

*5<sup>th</sup> September 2012*

## ***Appendix No. 9***

# ***Domestic Waste Disposal***

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National Waste Collection Permit Office

Áras an Chontae, Charleville Road, Tullamore, Co. Offaly  
Telephone: 057 9357428

Home

FAQ

Permit Search

Find Us

Quick Search

Advanced Search

Search By EWC Codes

## Waste Collection Permit Details

### Permit

WCP Permit Number: NWCP0-08-01106-03  
NWCP0 Reference: NWCP0-08-01106-03



Oxygen Environmental

T/A Oxygen Environmental, Oxygen Commercial, Cavan Waste Disposal  
Merrywell Industrial Estate  
Ballymount Road Lower  
Dublin 22



014263118

Fax: 014657192

info@oxygen.ie

### Waste Types

EWC Code	Description	Hazardous?
01 01 01	wastes from mineral metalliferous excavation	
01 01 02	wastes from mineral non-metalliferous excavation	
01 03 04*	acid-generating tailings from processing of sulphide ore	✓
01 03 05*	other tailings containing dangerous substances	✓
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05	
01 03 07*	other wastes containing dangerous substances from physical and chemical processing of metalliferous minerals	✓
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07	
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 07	
01 04 07*	waste containing dangerous substances from physical and chemical processing of nonmetalliferous minerals	✓
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07	

1 2 3 4 5 6 7 8 9 10 ... Page size: 10

766 items in 77 pages

### Collection Areas

This permit holder is permitted to collect in

Carlow County

Cavan County

Clare County

Cork City

Cork County

Donegal County

Dublin City

Dun Laoghaire-Rathdown

Fingal

Galway City

Galway County  
Kerry County  
Kildare County  
Kilkenny County  
Laois County  
Leitrim County  
Limerick City  
Limerick County  
Longford County  
Louth County  
Mayo County  
Meath County  
Monaghan County  
North Tipperary  
Offaly County  
Roscommon County  
Sligo County  
South Dublin  
South Tipperary  
Waterford City  
Waterford County  
Westmeath County  
Wexford County  
Wicklow County

## Collection Areas

## Documents

[NWCPO-08-01106-03](#)

Permit

[Top of Page](#)[Print](#)[Favourites](#)

NWCPO, Aras an Chonlaí, Charleville Road Tullamore, Co. Offaly - Tel: (057) 9357428

## ***Appendix No. 10***

# ***Local Water Quality Survey***

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(/Envision/help)

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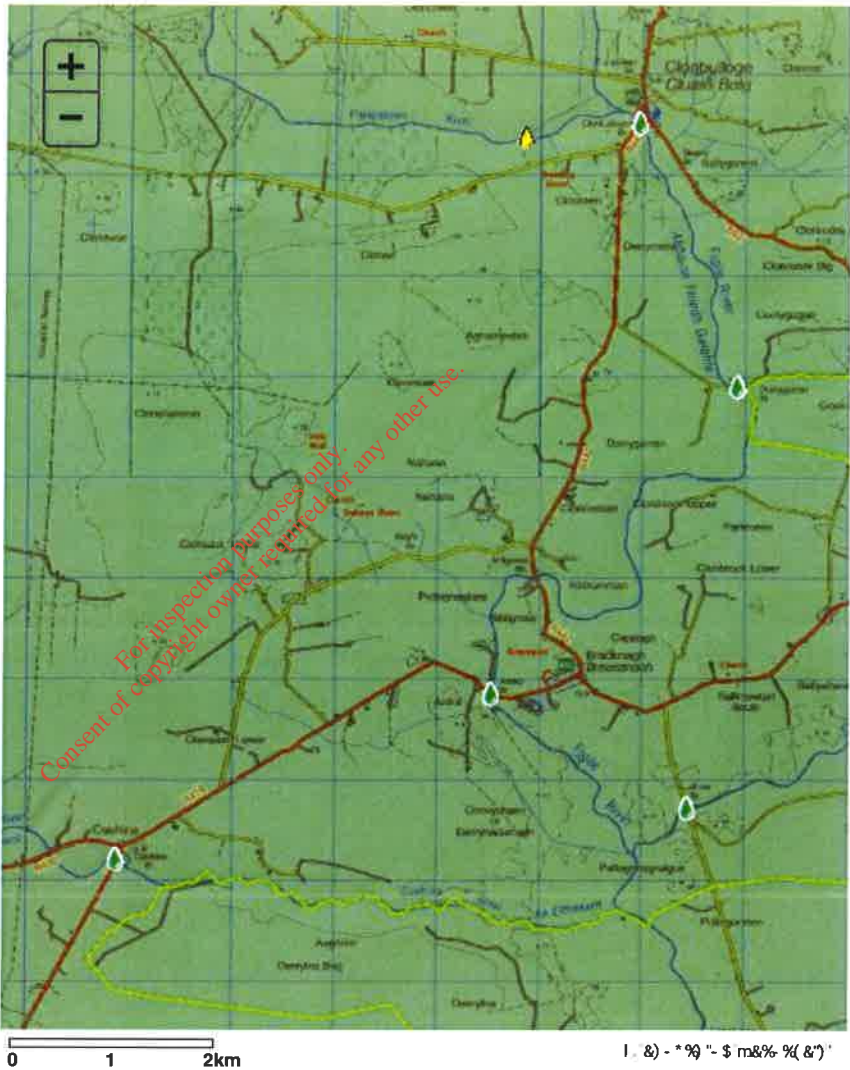
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- Q4-5, Q5 - High
- Status
- Q4 - Good Status
- Q3-4 - Moderate
- Status
- Q2-3, Q3 - Poor
- Status
- Q1, Q1-2, Q2 - Bad
- Status
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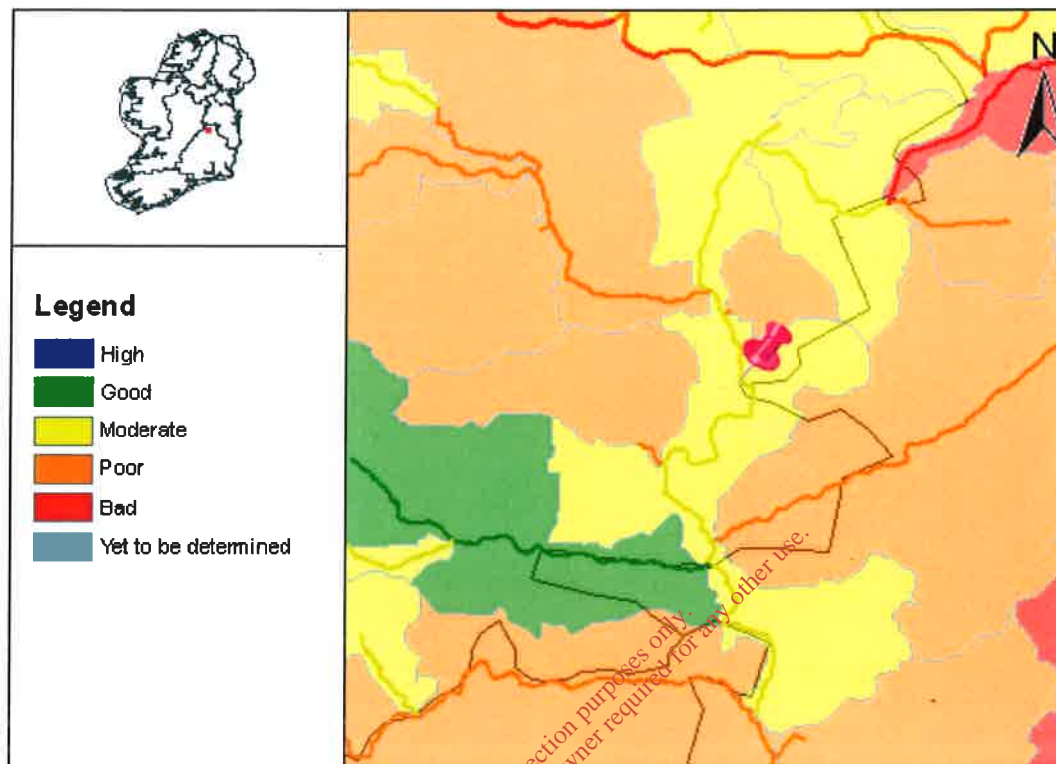
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## Full Report for Waterbody Figile, Trib of BarrowFigile



River Basin Management Plans (RBMPs) have been published for all River Basin Districts in Ireland in accordance with the requirements of the Water Framework Directive. The WaterMaps viewer is an integral part of the River Basin Management Plan and provides access to information at individual waterbody level and at Water Management Unit level for all the River Basin Districts in Ireland.

The following report provides summary plan information about the selected waterbody (indicated by the pin in the map above) relating to its status, risks, objectives, and measures proposed to retain status where this is adequate, or improve it where necessary. Waterbodies can relate to surface waters (these include rivers, lakes, estuaries [transitional waters], and coastal waters), or to groundwaters. Other relevant information not included in this report can be viewed using the WaterMaps viewer, including areas listed in the Register of Protected Areas.

You will find brief notes at the bottom of some of the individual report sheets that will help you in interpreting the information presented. More detailed information can be obtained in relation to all aspects of the RBMPs at [www.wfdireland.ie](http://www.wfdireland.ie).

Date Reported to Europe: July 2010

Date Report Created 18/12/2014



**Summary Information:**

**Water Management Unit:** IE\_SE\_Figile  
**WaterBody Category:** River Waterbody  
**WaterBody Name:** Figile, Trib of BarrowFigile  
**WaterBody Code:** IE\_SE\_14\_998  
**Overall Status:** Moderate  
**Overall Objective:** Restore\_2015  
**Overall Risk:** 1a At Risk  
**Heavily Modified:** No



Report data based upon final RBMP, 2009-2015.

The information provided above is a summary of the principal findings related to the selected waterbody. Further details and explanation of individual elements of the report are outlined in the following pages.

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## Status Report

**Water Management Unit:** IE\_SE\_Figile  
**WaterBody Category:** River Waterbody  
**WaterBody Name:** Figile, Trib of BarrowFigile  
**WaterBody Code:** IE\_SE\_14\_998  
**Overall Status Result:** Moderate  
**Heavily Modified:** No



Status Element Description		Result
<b>Status information</b>		
Q	Macroinvertebrate status	Moderate
PC	General physico-chemical status	Moderate
FPQ	Freshwater Pearl Mussel / Macroinvertebrate status	N/A
DIA	Diatoms status	N/A
HYM	Hydromorphology status	N/A
FIS	Fish status	N/A
SP	Specific Pollutants status (SP)	N/A
ES	Overall ecological status	Moderate
CS	Overall chemical status (PAS)	n/a
EXT	Extrapolated status	N/A
MON	Monitored water body	YES
DON	Donor water bodies	N/A

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n/a - not assessed

### Status

By 'Status' we mean the condition of the water in the waterbody. It is defined by its chemical status and its ecological status, whichever is worse. Waters are ranked in one of 5 status classes: High, Good, Moderate, Poor, Bad. However, not all waterbodies have been monitored, and in such cases the status of a similar nearby waterbody has been used (extrapolated) to assign status. If this has been done the first line of the status report shows the code of the waterbody used to extrapolate.

You can read more about status and how it is measured in our RBMP Document Library at [www.wfdireland.ie](http://www.wfdireland.ie) (Directory 15 Status).

Date Reported to Europe: July 2010

Date Report Created 18/12/2014



## Risk Report

**Water Management Unit:** IE\_SE\_Figile

**WaterBody Category:** River Waterbody

**WaterBody Name:** Figile, Trib of BarrowFigile

**WaterBody Code:** IE\_SE\_14\_998

**Overall Risk Result:** **1a** At Risk

**Heavily Modified:** No



Risk Test Description			Risk
Diffuse Risk Sources			
RD1	EPA diffuse model (2008)	1b	Probably At Risk
RD2a	Road Wash - Soluble Copper	2b	Not At Risk
RD2b	Road Wash - Total Zinc	2b	Not At Risk
RD2c	Road Wash - Total Hydrocarbons	2b	Not At Risk
RD3	Railways	2b	Not At Risk
RD4a	Forestry - Acidification (2008)	2b	Not At Risk
RD4b	Forestry - Suspended Solids (2008)	2b	Not At Risk
RD4c	Forestry - Eutrophication (2008)	2a	Probably Not At Risk
RD5	Overall Unsewered (2008)	2b	Not At Risk
RD5a	Unsewered Areas - Pathogens (2008)	2a	Probably Not At Risk
RD5b	Unsewered Phosphorus (2008)	2b	Not At Risk
RD6a	Arable	2a	Probably Not At Risk
RD6b	Sheep Dip	2b	Not At Risk
RD6c	Forestry - Dangerous Substances	2b	Not At Risk
RDO	Diffuse Overall -Worst Case (2008)	1b	Probably At Risk
Hydrology			
RHY1	Water balance - Abstraction	2b	Not At Risk
Morphological Risk Sources			
RM1	Channelisation (2008)	1a	At Risk
RM2	Embankments (2008)	2b	Not At Risk
RM3	Impoundments	2b	Not At Risk
RM4	Water Regulation	2b	Not At Risk
RM5	Intensive Landuse		N/A
RMO	Morphology Overall - Worst Case (2008)	1a	At Risk
Overall Risk			
RA	Rivers Overall - Worst Case (2008)	1a	At Risk

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Point Risk Sources		
RP1	WWTPs (2008)	1a At Risk
RP2	CSOs	2b Not At Risk
RP3	IPPCs (2008)	1a At Risk
RP4	Section 4s (2008)	2b Not At Risk
RP5	WTPs/Mines/Quarries/Landfills	N/A
RPO	Overall Risk from Point Sources - Worst Case (2008)	1a At Risk
Q Value		
Q	EPA Q rating and Margaritifera Assessment	N/A
Q/RDI or Point/Diffuse		
QPD	Q class/EPA Diffuse Model or worst case of Point and Diffuse (2008)	1a At Risk
Rivers Direct Impacts		
RDI1	Rivers Direct Impacts - Dangerous Substances	N/A

#### Risk

By 'risk' we mean the risk that a waterbody will not achieve good ecological or good chemical status/potential at least by 2015. To examine risk the various pressures acting on the waterbody were identified along with any evidence of impact on water status. Depending on the extent of the pressure and its potential for impact, and the amount of information available, the risk to the water body was placed in one of four categories: 1a at risk; 1b probably at risk; 2a probably not at risk; 2b not at risk. Note that '2008' after the risk category means that the risk assessment was revised in 2008. All other risks were determined as part of an earlier risk assessment in 2005.

You can read more about risk assessment in our 'WFD Risk Assessment Update' document in the RBMP document library, and other documents at [www.wfdireland.ie](http://www.wfdireland.ie) (Directory 31 Risk Assessments).

Date Reported to Europe: July 2010

Date Report Created 18/12/2014



## Objectives Report

**Water Management Unit:** IE\_SE\_Figile

**WaterBody Category:** River Waterbody

**WaterBody Name:** Figile, Trib of BarrowFigile

**WaterBody Code:** IE\_SE\_14\_998

**Overall Objective:** Restore\_2015

**Heavily Modified:** No



Objectives Description		Result
<b>Extended timescale information</b>		
E1	Extended timescales due to time requirements to upgrade WWTP discharges	No Status
E2	Extended timescales due to delayed recovery of chemical pollution and chemical status failures	No Status
E3	Extended timescales due to delayed recovery following reduction in agricultural nutrient losses	No Status
E4	Extended timescales due to delayed recovery from physical modifications and physical damage	No Status
E5	Extended timescales due to delayed recovery following implementing forestry acidification measures	No Status
E6	Extended timescales due to physical recovery timescales at mines and contaminated sites	No Status
E7	Extended timescales due to delayed recovery of highly impacted sites	No Status
E8	Extended timescales due to delayed recovery following reduction in agricultural nutrient losses	No Status
E9	Extended timescales due to delayed recovery from nitrogen losses to estuaries	No Status
E10	Extended timescales due to delayed recovery following reduction in agricultural nutrient losses	No Status
E11	Extended timescales due to delayed recovery from physical modifications and physical damage (overgrazing)	No Status
E12	Extended timescales due to delayed recovery from physical modifications and physical damage (channelisation)	No Status
E13	Extended timescales from Northern Ireland Environment Agency	No Status
EOV	Overall extended timescale - combination of all extended timescales fields	No Status
E14	Extended timescales due to the presence of Freshwater Pearl Mussel populations	No Status
EX15	Extended timescales due to highly impacted sites	No Status

Date Reported to Europe: July 2010

Date Report Created 18/12/2014



Objectives information		
OB1	Prevent deterioration objective	No Status
OB2	Restore at least good status objective	Restore_2015
OB3	Reduce chemical pollution objective	No Status
OB4	Protected areas objective	No Status
OB5	Northern Ireland Environment Agency objective	No Status
OBO	Overall objectives	Restore_2015

#### Extended timescales

Extended timescales have been set for certain waters due to technical, economic, environmental or recovery constraints. Extended timescales are usually of one planning cycle (6 years, to 2021) but in some cases are two planning cycles (to 2027).

#### Objectives

In general, we are required to ensure that our waters achieve at least good status/potential by 2015, and that their status does not deteriorate. Having identified the status of waters (this is given earlier in this report), the next stage is to set objectives for waters. Objectives consider waters that require protection from deterioration as well as waters that require restoration and the timescales needed for recovery. Four default objectives have been set initially:-

*Prevent Deterioration*

*Restore Good Status*

*Reduce Chemical Pollution*

*Achieve Protected Areas Objectives*

These objectives have been refined based on the measures available to achieve them, the latter's likely effectiveness, and consideration of cost-effective combinations of measures. Where it is considered necessary extended deadlines have been set for achieving objectives in 2021 or 2027.

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## Measures Report

**Water Management Unit:** IE\_SE\_Figile  
**WaterBody Category:** River Waterbody  
**WaterBody Name:** Figile, Trib of BarrowFigile  
**WaterBody Code:** IE\_SE\_14\_998  
**Heavily Modified:** No



	Measures Description	Applicable
BC	Total number of basic measures which apply to this waterbody	21
BW	Directive - Bathing Waters Directive	No
BIR	Directive - Birds Directive	No
HAB	Directive - Habitats Directive	No
DW	Directive - Drinking Waters Directive	No
MAE	Directive - Major Accidents and Emergencies Directive	Yes
EIA	Directive - Environmental Impact Assessment Directive	Yes
SS	Directive - Sewage Sludge Directive	Yes
UWT	Directive - Urban Waste Water Treatment Directive	Yes
PPP	Directive - Plant Protection Products Directive	Yes
NIT	Directive - Nitrates Directive	Yes
IPC	Directive - Integrated Pollution Prevention Control Directive	Yes
CR	Other Stipulated Measure - Cost recovery for water use	Yes
SUS	Other Stipulated Measure - Promotion of efficient and sustainable water use	Yes
DWS	Other Stipulated Measure - Protection of drinking water sources	Yes
ABS	Other Stipulated Measure - Control of abstraction and impoundment	Yes
POI	Other Stipulated Measure - Control of point source discharges	Yes
DIF	Other Stipulated Measure - Control of diffuse source discharges	Yes
PS	Other Stipulated Measure - Control of priority substances	Yes
MOD	Other Stipulated Measure - Controls on physical modifications to surface waters	Yes
OA	Other Stipulated Measure - Controls on other activities impacting on water status	Yes
AP	Other Stipulated Measure - Prevention or reduction of the impact of accidental pollution incidents	Yes
TP1	WSIP - Agglomerations with treatment plants requiring capital works	No
TP2	WSIP - Agglomerations with treatment plants requiring further investigation prior to capital works	No
TP3	WSIP - Agglomerations requiring the implementation of actions identified in Shellfish PRPs	No
TP4	WSIP - Agglomerations with treatment plants requiring improved operational performance	No
TP5	WSIP - Agglomerations requiring investigation of CSOs	No

Date Reported to Europe: July 2010

Date Report Created 18/12/2014

## water matters

'Our Plan'



TP6	WSIP - Agglomerations where existing treatment capacity is currently adequate but predicted loadings would result in overloading	No
OTS	On-site waste water treatment systems	Yes
FPM	Freshwater Pearl Mussel sub-basin plan	No
SHE	Shellfish Pollution Reduction Plan	No
IPR	IPPC licences requiring review	Yes
WPR	Water Pollution Act licences requiring review	No
FOR	Forestry guidelines and regulations	Yes
CH1	Chanelisation measures	No
CH2	Chanelisation investigations	Yes
OG	Overgrazing measures	No
HQW	Protect high quality waters	No

### Measures

Measures are necessary to ensure that we meet the objectives set out in the previous page of this report. Many measures are already provided for in national legislation and must be implemented. Other measures have been recently introduced or are under preparation. A range of additional potential measures are also being considered but require further development. Any agreed additional measures can be introduced through the update of Water Management Unit Action Plans during the implementation process.

You can read more about Basic Measures in 'River Basin Planning Guidance' and in other documents in our RBMP Document Library at [www.wfdireland.ie](http://www.wfdireland.ie).

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Date Reported to Europe: July 2010

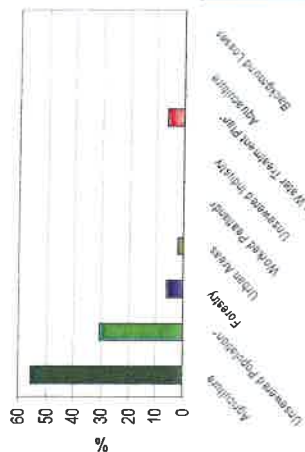
Date Report Created 18/12/2014



# Figile Water Management Unit Action Plan

Name	Figile Water Management Unit
Area	639 km <sup>2</sup>
River Basin District	South Eastern RBD
Main Counties	Offaly, Kildare
Protected Areas	Ballynafagh Bog SAC Ballynafagh Lake SAC Mouds Bog SAC Pollardstown Fen SAC The Long Demes SAC

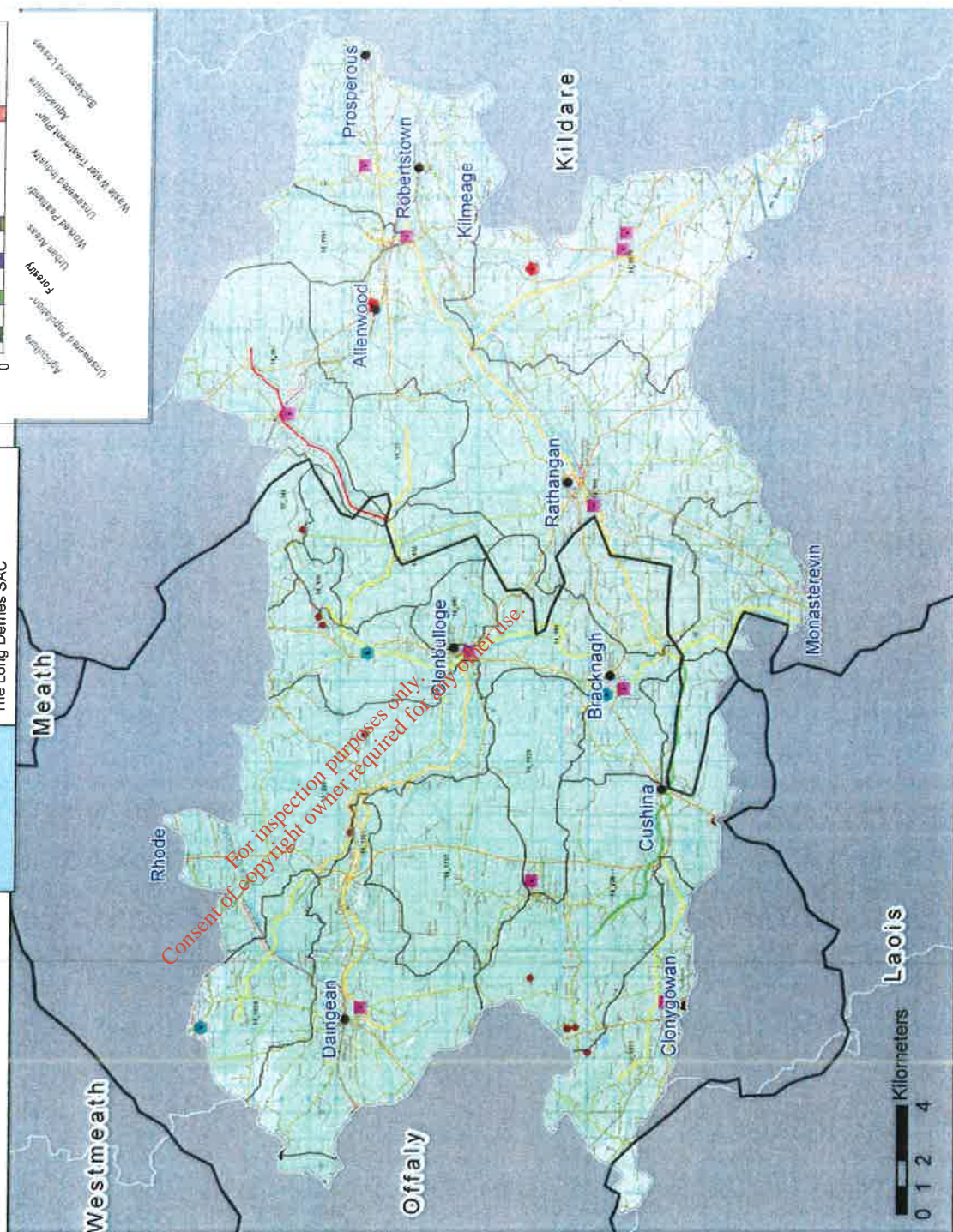
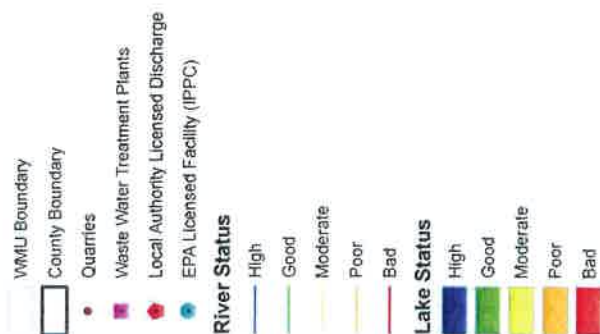
Sectoral Total Phosphorus Source  
(This does not imply impact)



Figile Water Management Unit



Legend



# Figile Water Management Unit Action Plan

STATUS/IMPACTS	
Overall status	16 River Water Bodies - 1 Good, 5 Moderate, 9 Poor, 1 Bad, No lakes.
Status elements	Q score dictates overall status, except for 1 bad WB where fish reduces the status from poor to bad. Phys Chemical status ranges from high to moderate where monitored. The status for 2 moderate, and 4 poor sites were extrapolated. Chemical status not monitored.
Possible Impacts - EPA Water Quality 2004	<p>CLONCUMBER STREAM - The Cloncumber or Pollardstown Stream was heavily silted in its upper reaches and eutrophic in its lower reaches in late August 2003. *Siltation plus suspected ground water effects. Waterbody code: SE_14_1870 / 09 Status: Poor (Based on Q value 3)</p> <p>CUSHINA - Heavy usage by watering animals is suspected as being the most likely cause of the further deterioration and the unsatisfactory condition of the upper river (0050) but, as indicated by the 'Fair' (Q4) quality at Stations 0080 and 0100, the lower half was likely to have been satisfactory in 2003. Waterbody Code: SE_14_1875 / 09 status: Moderate (Based on Q value 3-4)</p> <p>DAINGEAN - A significant improvement was recorded below Daingean (0200) in 2003; serious pollution was no longer indicated at that point but further recovery will be required before satisfactory conditions are restored there. The unsatisfactory condition of the upper river was indicated by poor biological indicators and by the very low DO (21%) recorded at Island Bridge (0100) at the time of this survey. A minor improvement was recorded near Esker Bridge (0520) but a marked deterioration in the lower reaches was indicated by the complete absence of insect life formerly present at Station 0600. Overall condition unsatisfactory. Waterbody Code: SE_14_1561 / 2009 Status: Poor (Based on Q value 2-3)</p> <p>ESKER STREAM - As indicated by the unbalanced macroinvertebrate fauna and also by the DO values recorded (55% &amp; 73%) conditions were assessed as unsatisfactory at both locations surveyed in 2003. Has deteriorated since 2000. Agriculture suspected. Waterbody Code: SE_14_239 / WB status 09; Poor (Based on Q value 3)</p> <p>FIGILE - The overall quality situation in the Figile River in August 2003 was unsatisfactory and was unchanged in comparison with its condition in 2000. The uppermost surveyed location (0050) was again seriously polluted by suspected industrial and/or sewage discharges which are suspected as polluting the river for a considerable distance downstream i.e., to Cushing Bridge (0100) and beyond. DO values recorded at the locations listed above were, respectively, 50%, 68%, 63%, 60%, 66% and 119%. Waterbody Code: SE_14_987 -2009 status: Bad (Based on bad fish status)</p> <p>SLATE - The Slate River was seriously polluted by suspected sewage and domestic wastes in its upper reaches (0020) in late August 2003 and as the Q ratings at Ford and Agar Bridges (0050, 0100) indicate, quality remained significantly depressed for a considerable distance downstream. DO values recorded at the upper three stations were, respectively, 15%, 30% and 79% at the time of this survey. Indications at Stations 0150 and 0210 are of considerable eutrophication in the middle and lower reaches and only the lowermost section (0300) could be considered satisfactory. Waterbody Code: SE_14_999 / WB status 2009; Poor (Based on Q value 3)</p>

PRESSURES/RISKS	
Nutrient sources	94% of TP is Diffuse, with 56% from Agriculture and 30% from Unsewered Properties
Point pressures	12 WWTP (Coill Dubh, Milltown (1), Milltown (2), Rathangan, Robertstown, Bracknagh, Clonbullogue, Clonygowan, Daingean, Walsh Island, Ticknevin, Allenwood). 3 WTP (Daingean, Tobar Daly, Walsh Island); 4 Section 4s (Enterprise park, Quarry, Car Wash, Building Production. 8 IPPC - 4 private companies, Meat Plant, 2 Power Plants, Research Centre. 4 EPA Licensed Waste Facilities
Wastewater Treatment (WWTP) and Industrial Discharges	At risk: Coill Dubh WWTP Milltown, Kildare WWTP Rathangan WWTP Robertstown WWTP Clonbullogue WWTP Clonygowan WWTP Daingean WWTP - Walsh Island WWTP
Quarries, Mines & Landfills	There are 14 Quarries.
Agriculture	The majority of the area of the WMU is at risk from Agriculture
On-site systems	There are 6285 septic tanks in this WMU, none of them are posing a risk to water quality due to their density, location and unsuitable hydrogeological conditions.
Forestry	No waterbodies at risk from forestry
Dangerous substances	No waterbodies at risk from Dangerous Substances.
Morphology	3 waterbodies are noted as 'At Risk' due to channelisation; the Barrow Drainage District (pre 1945 channelisation scheme). All 3 of these water bodies are traversed by the Artificial Waterbody (AWB) Grand Canal Barrow Line - SE_14_998, SE_14_999 and SE_14_1870.
Abstractions	7 Abstractions but no waterbodies at risk.
Other	2 Artificial Waterbodies - Grand Canal and Ballynafagh Reservoir



# Figile Water Management Unit Action Plan

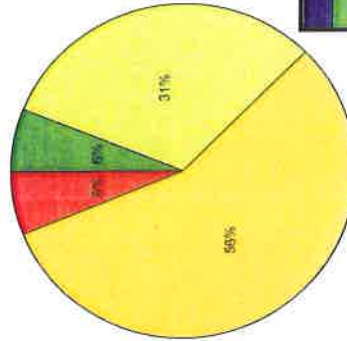
SELECTED ACTION PROGRAMME NB All relevant basic measures, general supplementary measures and SEA mitigation measures apply	
Point Sources	See Action Table for WWTP at risk below. INDUSTRY: Investigate Section 4s at risk. Examine the terms of all discharge authorisations to determine whether they require review for the purpose of compliance with water body objectives including protected area objectives and environmental quality standards.
Diffuse Sources	AGRICULTURE - Good Agricultural Practice Regulations and Enforcement.
Other	MORPHOLOGY-SE_14_998, SE_14_999 and SE_14_1870 will all require Channelisation Investigation to determine impact.

OBJECTIVES	
Restore/Protect 2015	5 water bodies
Alternative Objectives	Extended Deadlines – 11 water bodies with 2021 deadlines  3 New Modifications or Developments - Proposed peaking plant at Edenderry, Proposed waste and compost facility at Drehid, and Proposed wind farm at Ballyhugh.  HMWB/AWB - 2 AWBs in the WMU - Ballynafagh Reservoir and the Grand Canal.

Point Source Discharge	County	Priority	Measure (Capital Works)
Clonygowan WWTP	Offaly	2	Provide tertiary treatment or relocate outfall.
Clonygowan WWTP	Offaly	2	Provide nutrient removal or relocate outfall.
Daingean WWTP	Offaly	2	Provide tertiary treatment or relocate outfall.
Derrinrum WWTP	Kildare	1	Provide tertiary treatment or relocate outfall.
Derrinrum WWTP	Kildare	1	Provide nutrient removal or relocate outfall.
Point Source Discharge	County	Priority	Measure (Investigation before Capital Works)
Walsh Island WWTP	Offaly	3	Investigate the need for increase in capacity of treatment plant.
Point Source Discharge	County	Priority	Measure
Daingean WWTP	Offaly	1	Implement an appropriate performance management system
Rathangan WWTP	Kildare	1	Implement an appropriate performance management system
Point Source Discharge	County	Priority	Measure
Allenwood WWTP	Kildare	2	Investigation of CSO's
Coill Dubh WWTP	Kildare	2	Investigation of CSO's
Milltown, Kildare	Kildare	2	Investigation of CSO's
Robertstown WWTP	Kildare	2	Investigation of CSO's
Daingean WWTP	Offaly	3	Investigation of CSO's
Point Source Discharge	County	Priority	Measure
Allenwood WWTP	Kildare	2	Ensure capacity of treatment plant is not exceeded
Robertstown WWTP	Kildare	2	Ensure capacity of treatment plant is not exceeded

FUTURE DEVELOPMENT	
Future Pressures and Developments	Throughout the river basin management cycle future pressures and developments will need to be managed to ensure compliance with the objectives of the Water Framework Directive and the Programme of Measures will need to be developed to ensure issues associated with these new pressures are addressed.

River Status



High
Good
Moderate
Poor
Bad
Yet to be determined

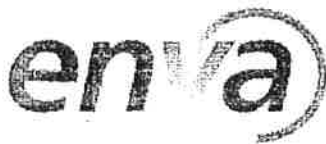
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# Figile Water Management Unit Action Plan

## River Data

This table outlines water body information including status and a breakdown of its elements, protected areas, objectives and timescales

IE_SE Figile																	
Member State Code	Monitored Y (Extrapolated N)	Donor Waterbody	Biological Elements				Supporting Elements			Ecological Status	Chemical Status	Protected Areas				Objective	Date objective to be achieved
			Macrobenthos (Q)	FreshWater Pearl Mussel	Fish	Phytobenthos (Diatoms)	Morphology	Specific Pollutants	Physio-chemical			Special Area of Conservation	Special Protection Area	Nutrient Sensitive Waters	Drinking Water		
SE_14_1161	N	SE_14_999	M							P					GES	2021	
SE_14_152	Y		M						M	M		Y			GES	2015	
SE_14_1561	Y		M						M	P					GES	2021	
SE_14_1737	N	SE_14_239								P					GES	2021	
SE_14_1824	N	SE_14_1875								M					GES	2015	
SE_14_1870	Y		P						G	P		Y			GES	2021	
SE_14_1875	Y		M						G	M					GES	2021	
SE_14_1939	N	SE_14_239								P					GES	2021	
SE_14_23	N	SE_14_987								P					GES	2021	
SE_14_239	Y		P							P					GES	2021	
SE_14_276	Y		G							G					GES	2009	
SE_14_938	N	SE_14_998								M					GES	2015	
SE_14_987	Y		P						M	B					GES	2021	
SE_14_997	N	SE_14_239								P					GES	2021	
SE_14_998	Y		M						M	M					GES	2015	
SE_14_999	Y		M						G	P		Y			GES	2021	



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### Analysis Report

Sample Description	Condition	Our Ref.	Date Received
Bracknagh SW1 10.01.14	Normal	c-100/2/14	10.01.14

Test Parameter	Test Date	Result (mg/l)	Test Method
COD	10.01.14	<2	ENVCM-021

\*Denotes result exceeding licence limit  
^Denotes subcontracted test  
#Denotes unaccredited test

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Carol Coveney

Date: 30/01/2014



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Sample Description	Condition	Our Ref.	Date Received
Bracknagh SW2 10.01.14	Normal	c-100/2/14	10.01.14

Test Parameter	Test Date	Result (mg/l)	Test Method
COD	10.01.14	9	ENVCM-021

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**Analysis Report**

Sample Description	Condition	Our Ref.	Date Received
Backnagh SW1 30.06.14	Normal	C-102/27/14	02/07/2014

Test Parameter	Test Date	Result (mg/l)	Test Method
Total Phosphorous	02/07/2014	<0.1	ENVCM-019
Ammonia TnT	02/07/2014	<0.2	ENVCM-115
Total Nitrogen #	02/07/2014	3.1	ENVCM-016
BOD #	02/07/2014	<2	ENVCM-031
COD	02/07/2014	<10	ENVCM-021

\* Denotes result exceeding licence limit

^ Denotes subcontracted test

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Jamie Barry - Technical Manager



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**Analysis Report**

Sample Description	Condition	Our Ref.	Date Received
Bracknagh SW2 30.06.14	Normal	C-103/27/14	02/07/2014

Test Parameter	Test Date	Result (mg/l)	Test Method
COD	02/07/2014	<10	ENVCM-021
BOD #	02/07/2014	1.3	ENVCM-031
Total Nitrogen #	02/07/2014	1.9	ENVCM-016
Ammonia TnT	02/07/2014	<0.2	ENVCM-115
Total Phosphorous	02/07/2014	<0.1	ENVCM-019

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### Analysis Report

Sample Description	Condition	Our Ref.	Date Received
Bracknagh SW1 10.01.14	Normal	c-100/2/14	10.01.14

Test Parameter	Test Date	Result (mg/l)	Test Method
COD	10.01.14	12	ENVCM-021

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Sample Description	Condition	Our Ref.	Date Received
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Test Parameter	Test Date	Result (mg/l)	Test Method
COD	10.01.14	9	ENVCM-021

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### Water Sample Results 2013

#### Rosderra Farms Bracknagh Pig Farm

**Parameter**                      **COD**

Quarterly	Q1	Q2	Q3	Q4
<b>Date of Sampling</b>	20/03/2013	24/06/2013	26/09/2013	27/11/2013
SW1	12	18	14	13
SW2	23	11	19	11

16

#### **Ground Water Sampling**

Annually	Total Ammonia	Nitrate	Faecal Coliforms
<b>Date of Sampling</b>	<b>27/11/2013</b>		
GW1	<0.2	1	N/D

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# Certificate of Analysis

Client: Rosderra Farms,  
Ardra,  
Bracknagh,  
Co Offaly.

Certificate Number: 371574  
Certificate Date: 08-Dec-2013  
Order Number: 841/48/13

## Test Organism

Ammonia as Nitrogen  
Nitrate as Nitrogen  
Coli/100ml MPN

## Test Method

ENVCM-013 based on In house Method 8038 using colorimetry  
ENVCM-015 based on In house Method 10020 using colorimetry  
FTCM.025 IDEXX Quanti-Tray based on HPA Std. Method

Sample Ref	Description	Condition	Date Recieved	Test Date	NH3 as N	NO3 as N	Coli/100ml MPN
841/48/13	GW1 27/11/13	Normal	27/11/13	27/11/13	<0.2	1.0	ND

ND=Not Detected. <10,<20,etc=Not Detected @ Dilution -1 etc. \* = Not accredited. U.C. = Uncountable

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Signed :

Oria Dalton  
Quality Manager



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## ***Appendix No. 11***

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## ***Appendix No. 12***

### ***Met Data***

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<b>Birr 1979-2008 averages</b>													
<b>TEMPERATURE (degrees Celsius)</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
mean daily max	8.1	8.6	10.3	12.6	15.5	17.8	19.6	19.3	17.1	13.6	10.4	8.6	13.5
mean daily min	2.0	2.0	3.3	4.3	6.6	9.5	11.6	11.3	9.3	6.6	4.0	2.7	6.1
mean temperature	5.1	5.3	6.8	8.4	11.0	13.6	15.6	15.3	13.2	10.1	7.2	5.6	9.8
absolute max.	14.3	15.5	18.6	23.2	25.7	29.7	30.8	29.4	25.6	20.4	17.5	15.3	30.8
min. maximum	-3.5	-0.5	2.0	4.3	6.3	10.5	12.5	11.6	9.7	5.9	2.7	-1.0	-3.5
max. minimum	11.6	12.1	12.2	13.0	15.2	16.6	18.9	18.1	17.9	15.7	12.8	13.0	18.9
absolute min.	-14.6	-7.1	-7.8	-4.7	-2.3	0.2	3.7	2.0	-1.1	-5.2	-6.9	-8.6	-14.6
mean num. of days with air frost	8.2	7.7	4.9	3.5	0.9	0.0	0.0	0.0	0.2	1.6	4.8	7.0	38.8
mean num. of days with ground frost	16.0	15.0	13.0	12.0	7.0	1.0	0.0	0.0	2.0	6.0	11.0	15.0	98.0
mean 5cm soil	3.9	3.9	5.7	9.0	13.0	16.0	17.2	16.4	13.5	9.4	6.2	4.5	9.9
mean 10cm soil	4.1	4.2	5.6	8.2	11.8	14.8	16.3	15.6	13.0	9.4	6.5	4.8	9.5
mean 20cm soil	4.8	5.0	6.4	8.8	12.1	14.9	16.6	16.2	14.0	10.5	7.5	5.6	10.2
<b>RELATIVE HUMIDITY (%)</b>													
mean at 0900UTC	89.8	88.9	86.9	81.5	77.7	78.3	80.9	84.2	86.6	89.1	90.9	90.3	85.4
mean at 1500UTC	82.4	75.6	71.6	65.1	64.7	66.2	67.5	68.5	70.3	76.1	81.1	84.5	72.8
<b>SUNSHINE (hours)</b>													
mean daily duration	1.5	2.2	2.9	4.5	5.1	4.3	3.9	4.0	3.5	2.9	1.9	1.4	3.2
greatest daily duration	7.7	9.4	10.5	13.0	15.1	15.7	15.2	13.6	11.5	9.7	8.5	6.9	15.7
mean num. of days with no sun	11.0	7.1	5.8	2.9	2.2	2.9	2.5	2.5	3.5	6.2	8.8	12.0	67.4
<b>RAINFALL (mm)</b>													
mean monthly total	78.8	58.6	67.4	55.0	59.5	66.5	59.4	81.6	66.4	94.2	74.7	83.8	845.7
greatest daily total	39.2	28.0	22.0	26.3	19.7	41.1	44.5	59.1	35.7	32.3	29.7	37.5	59.1
mean num. of days with $\geq 0.2$ mm	19	15	19	15	16	16	16	18	17	19	18	18	206
mean num. of days with $\geq 1.0$ mm	14	11	14	11	12	11	11	12	11	14	13	13	147
mean num. of days with $\geq 5.0$ mm	5	4	4	3	4	4	3	5	4	6	5	6	53
<b>WIND (knots)</b>													
mean monthly speed	7.9	8.0	7.8	6.5	6.2	5.8	5.6	5.6	6.0	6.8	7.0	7.5	6.7
max. gust	75	77	64	58	55	49	49	46	51	64	54	69	59.2
max. mean 10-minute speed	40	38	33	29	29	27	24	27	30	37	32	38	32
mean num. of days with gales	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
<b>WEATHER (mean no. of days with..)</b>													
snow or sleet	3.5	2.6	2.5	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.2	1.9	11.7
snow lying at 0900UTC	2.0	0.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	3.7
hail	0.6	0.8	1.8	2.0	0.9	0.1	0.0	0.2	0.1	0.2	0.3	0.3	7.3
thunder	0.1	0.1	0.2	0.3	0.4	0.8	0.9	0.5	0.3	0.1	0.2	0.1	3.9
fog	2.1	1.3	1.1	1.5	1.1	0.8	1.1	1.8	2.5	2.1	1.9	2.9	20.4



## ***Appendix No. 13***

### **Screening Report - Article 6(3) & (4) of the habitats directive 92 /43/EEC Appropriate Assessment of a proposed project**

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**STATEMENT OF SCREENING FOR APPROPRIATE ASSESSMENT  
OF A PROPOSED DEVELOPMENT AT ARDRA,  
BRACKNAGH, COUNTY OFFALY,**

**IN LINE WITH THE REQUIREMENTS OF ARTICLE 6(3) OF THE  
EU HABITATS DIRECTIVE**



**Rosderra Farms**  
c/o Pauric Fay  
C.L.W. Environmental Planners Ltd  
The Mews  
23 Farnham Street

October 2014

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## **1 INTRODUCTION**

### **1.1 BACKGROUND**

This Appropriate Assessment Screening Report (Stage I) was prepared for a proposed development at Ardra, Bracknagh, County Offaly. Having regard to the location and nature of this proposed development site in relation to its surrounding environment, it was deemed appropriate that the applicant carry out and submit an Appropriate Assessment of this proposed development in accordance with Article 6 of the Habitats Directive.

This Appropriate Assessment will determine whether any significant impacts on designated sites are likely. In addition, the assessment will allow areas of potential ecological value and potential ecological constraints associated with this proposed development to be identified and it will also enable potential ecological impacts associated with the proposed development to be assessed and mitigated for.

This Appropriate Assessment was prepared in October 2014 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental.

### **1.2 REGULATORY CONTEXT**

#### **RELEVANT LEGALISATION**

The Birds Directive (Council Directive 79/409/EEC) implies that particular protection is given to sites (Special Protection Areas) which support certain bird species listed in Annex I of the Directive and that surveys of development sites should consider the status of such species.

The EU Habitats Directive (92/43/EEC) gives protection to sites (Special Areas of Conservation) which support particular habitats and species listed in annexes to this directive. Articles 6(3) and 6(4) of this Directive call for the undertaking of an Appropriate Assessment for plans and projects likely to have an effect on designated sites. This is explained in greater detail in the following section.

The Wildlife Act 1976 (and its amendment of 2000) provides protection to most wild birds and animals. Interference with such species can only occur under licence. Under the act it is an offence to "wilfully interfere with or destroy the breeding place or resting place of any protected wild animal". The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. Under the Wildlife Amendment Act (2000) NHAs are legally protected from damage. NHAs are not part of the Natura 2000 network and so the Appropriate Assessment process does not apply to them.

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2015 and that status doesn't deteriorate in any waters.

#### **APPROPRIATE ASSESSMENT AND THE HABITATS DIRECTIVE**

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – the 'Habitats Directive' – provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as *Natura 2000*. *Natura 2000* sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting *Natura 2000* sites. Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) deals with the steps that should be taken when it is determined, as a result of appropriate assessment, that a plan/project will adversely affect a European site. Issues



dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

#### **THE APPROPRIATE ASSESSMENT PROCESS**

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a site's conservation objectives.

Appropriate Assessment is an assessment of the potential effects of a proposed plan - 'in combination' with other plans and projects - on one or more European sites. The 'Appropriate Assessment' itself is a statement which must be made by the competent authority which says whether the plan affects the integrity of a European site. The actual process of determining whether or not the plan will affect the site is also commonly referred to as 'Appropriate Assessment'.

If adverse impacts on the site cannot be avoided, then mitigation measures should be applied during the Appropriate Assessment process to the point where no adverse impacts on the site remain (European Commission, 2000, 2001).

The conclusions of the appropriate assessment report should enable the competent authority to ascertain whether the proposal would adversely affect the integrity of the site (European Commission, 2000, 2001).

Under the terms of the directive (European Commission, 2000, 2001), consent can only be granted for a project if, as a result of the appropriate assessment either (a) it is concluded that the integrity of the site will not be adversely affected, or (b) where an adverse effect is

anticipated, there is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

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## 2 METHODOLOGY

### 2.1 APPROPRIATE ASSESSMENT

This Statement of Screening for Appropriate Assessment (Stage 1) has been prepared with reference to the following:

- European Commission (2000). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2002). Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;
- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.

The four stage process is:

**Stage 1: Screening** – The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether or not these impacts are likely to be significant;

**Stage 2: Appropriate Assessment** – The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

**Stage 3: Assessment of Alternative Solutions** – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

**Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain** – An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this Appropriate Assessment Screening Report has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Screening statement with conclusions.

## 2.2 DESK STUDIES

Information on the site and the area of the proposed development was studied prior to the completion of this statement. Aerial photographs and maps were examined and the websites of the National Parks and Wildlife Service (NPWS), the Environmental Protection Agency (EPA) and the National Biodiversity Data Centre were consulted for information on protected sites and the distance of these sites from the proposed development. Any records of rare and protected species were noted. In addition, the website of Offaly County Council was consulted in order to compile information on other developments that would be likely to give rise to cumulative ecological impacts in Natura 2000 sites.

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### **3 SCREENING**

#### **3.1 DEVELOPMENT DESCRIPTION**

Rosderra Farms have indicated their intention to shortly apply to Offaly County Council for planning permission for a development at their pig farm at Ardra, Bracknagh, County Offaly.

This proposed development will consist of the demolition of ten existing houses and the construction of two new houses. In addition, an extension is proposed between two existing houses to form a third pig house. All works will be contained within the existing footprint of the facility. It is the intention of Rosderra Farms to upgrade the facility in order to comply more fully with current Department of Agriculture regulations and specifications. The upgrade of the facility will also lead to better environmental standards and animal welfare standards.

With the completion of the proposed developments, stock numbers will change from 550 Sow Integrated unit to a 1,250 sow breeding unit. However, there will be no change in the slurry volume produced.

The pig farm at Ardra is operating under EPA License Number Po435-02. Pigs and pig slurry are the main output. The total organic fertilised capacity of the facility is 5,363m<sup>3</sup>. Records for the movement of the organic fertiliser have been submitted to the Department of Agriculture, Food and the Marine.

### 3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site of the proposed development is situated in the townland of Ardra. It is accessed by a cul-de-sac and it is just off a secondary road, the R149. The site is approximately 1km north-west of Bracknagh village and 7.8km west of Rathangan.

The site is located in an area where the dominant habitat is improved agricultural grassland. Other habitats surrounding the site include wet grassland, hedgerows, treelines, drains, streams and rivers (the Figile River). A site location map is shown in Figure 1 and an aerial photograph showing the site and its surrounding habitats is shown in Figure 2.

The site itself has few natural habitats remaining. The dominant habitat within is buildings and artificial surfaces, a habitat of very limited value. Boundaries along the southern, western and northern perimeters consist of hedgerows / treelines. The eastern boundary is open and faces onto the Figile River.

Information from the website of the National Biodiversity Data Centre reveals that there are no records of rare or protected species from within the 1km square (N5918) of the proposed development.

#### FIGILE RIVER

The Figile River rises in Lullymore West in the Bog of Allen. It flows through areas of raised bog, cutover bog and coniferous forest for much of its upper reaches, until it reaches Clonbulloge. It then flows through areas dominated by agricultural grassland. Just downstream of Bracknagh it joins the Slate River and the Cushina River and it becomes the Black River. The Black then flows south until it reaches the River Barrow, just upstream of Monasterevin.

Fisheries in the Figile River is mixed, having good stocks of trout in parts as well as coarse fish, including pike and perch.

In their most recent biological water quality monitoring results (2011), the EPA assigned the Figile River as a Q3-4 in its upper reaches. At the Bridge in Clonbulloge, a Q4 was assigned (good status). Derrygarran Bridge, which is approximately 5km upstream of the proposed application site, also received a Q4 in 2011. The closest EPA station to the application site is Ardra Bridge, immediately downstream of the site. A Q4 was assigned here in 2011. Overall, according to the EPA, the Figile River is of moderate – good ecological status. Under the Water Framework Directive Good status must be achieved.

Information pertaining to the River Figle Catchment in the Bracknagh area was also obtained from the Water Maps section of the Water Matters website ([www.wfdireland.ie](http://www.wfdireland.ie)). The Water Maps mapping information system was developed to support the River Basin Management Plan documentation in relation to Ireland's River Basin Districts. This information system presents data on waterbody status, risks, objectives and measures.

The Figle River in the Bracknagh area is defined by Water Matters as a tributary of the River Barrow. They define the overall status of this catchment as moderate and it is identified as being At Risk of not bring fully restored to good ecological status by the year 2015.



Figure 1 – Site Location Map (Sites Indicated with Red Dot)



Figure 2 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats

### 3.3 NATURA 2000 SITES IDENTIFIED

In accordance with the guidelines issued by the Department of the Environment and Local Government, a list of Natura 2000 sites within 10km of the proposed development have been identified and described according to their site synopsis, qualifying interests and conservation objectives.

There is one Natura 2000 site within 10km of this proposed development. This is the *River Barrow and Nore* Special Area of Conservation (SAC 002162) and at its closest point it is 5.9km south of the proposed development. There is also a source - pathway - receptor linkage between the two points, i.e., the Figile, Slate and Black Rivers. The upstream distance of the proposed development site from the SAC is 9.3km. A full description of the River Barrow and Nore SAC can be viewed in Appendix I. A map showing the site in relation to these designated areas is shown in Figure 3. Their qualifying interests, i.e., the reasons for designation are described below.

#### RIVER BARROW AND NORE SAC 002162

This site consists of most of the freshwater stretches of the Barrow/Nore River catchments. The Barrow is tidal as far upriver as Graiguenamanagh while the Nore is tidal as far upriver as Inishtioge. The site also includes the extreme lower reaches of the River Suir and the entire estuarine component of Waterford Harbour extending to Creadan Head. The larger of the many tributaries include the Liffey, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore. Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains. They traverse limestone bedrock for a good proportion of their routes, though the middle reaches of the Barrow and many of the eastern tributaries run through Leinster Granite. A wide range of habitats associated with the rivers are included within the site, including substantial areas of woodland (deciduous, mixed), dry heath, wet grassland, swamp and marsh vegetation, salt marshes, a small dune system and intertidal sand and mud flats. Areas of improved grassland, arable land and coniferous plantations are included in the site for water quality reasons.

The site supports many Annexed habitats including the priority habitats of alluvial woodland and petrifying springs. Quality of habitat is generally good. The site also supports a number of Annex II animal species - *Salmo salar*, *Margaritifera margaritifera*, *M.m. durrovensis*, *Alosa fallax fallax*, *Austropotamobius pallipes*, *Petromyzon marinus*, *Lutra lutra*, *Lampetra fluviatilis* and *L. planeri*. Annex I Bird species include *Anser albifrons flavirostris*, *Falco peregrinus*, *Cygnus cygnus*, *Cygnus columbianus bewickii*, *Limosa lapponica*, *Pluvialis apricaria* and *Alcedo*



*atthis*. A range of rare plants and invertebrates are found in the woods along these rivers and rare plants are also associated with the saltmarsh.

30% of the site consists of water: 10% freshwater and 20% of estuarine and tidal stretches. The Annex II species listed in Section 4.2 are dependent on the quality of these waters. Much of the site along the water courses is under threat from pollution caused by increased fertiliser application, sewage and industrial waste. There is also loss of saltmeadow habitat with two legally protected species and rare sedge, as a result of infilling and agricultural intensification. *Alosa fallax* may be vulnerable to angling pressure. Aquaculture occurs in Waterford Harbour and may be causing some disturbance to the intertidal sediments and wintering birds - intensification of aquaculture is a threat.

The qualifying interests of the River Barrow and Nore SAC are:

- *Vertigo moulinsiana*
- Freshwater pearl mussel (*Margaritifera margaritifera*)
- White-clawed crayfish (*Austropotamobius pallipes*)
- Sea lamprey (*Petromyzon marinus*)
- Brook lamprey (*Lampetra planeri*)
- River lamprey (*Lampetra fluviatilis*)
- Allis shad (*Alosa alosa*)
- Twait shad (*Alosa fallax fallax*)
- Salmon (*Salmo salar*)
- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Salicornia and other annuals colonizing mud and sand
- Spartina swards
- Atlantic salt meadows
- Otter (*Lutra lutra*)
- Mediterranean salt meadows
- Killarney fern (*Trichomanes speciosum*)
- Pearl mussel (*Margaritifera durrovensis*)
- Water courses of plain to montane levels with the *Ranunculus fluitantis* and Callitriche-Batrachion vegetation
- European dry heaths
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- Petrifying springs with tufa formation (Cratoneurion)
- Old sessile oak woods with *Ilex* and *Blechnum* in British Isles
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*

The NPWS generic conservation objectives of the sites listed above are as follows:

- To maintain the favourable conservation status of the qualifying interests (outlined above) of for these designated sites;
- To maintain or restore the favourable conservation condition of the listed species within these sites;
- To maintain the extent, species richness and biodiversity of the entire site.
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities.

The favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, are stable or increasing;
- The specific structure and functions which are necessary for its long - term maintenance exist and are likely to continue to exist for the foreseeable future;
- The conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- The population dynamics data on the species concerned indicate that it is maintaining itself on a long - term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long - term basis.



Figure 3 – The Application Site (Outlined in Red) in relation to the River Barrow and Nore SAC (Red Cross Hatching)

### 3.4 ASSESSMENT CRITERIA

The impacts (if any) of the proposed development on the Natura 2000 sites identified above are described below.

**Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on nearby Natura 2000 site:**

The construction and operation of the proposed developments at Ardra will have **no impacts** upon the integrity or the site structure of the River Barrow and Nore SAC. There are no individual elements of the proposed project that are likely to give rise to negative impacts on this site. The downstream distance between the proposed development site and the River Barrow and Nore SAC is approximately 9.3km. This distance is sufficient to ensure that there will be no impacts upon the River Barrow arising from construction or operation of the proposed development.

**Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the nearby Natura 2000 sites by virtue of:**

**Size and scale:** Given the small size and scale of the development in relation to the overall size of the River Barrow and Nore SAC, then the likelihood of any direct, indirect or cumulative impacts on these designated sites are low.

**Land-take:** There will be no land-take from any designated site. There will be no interference with the boundaries of any designated site.

**Distance from Natura 2000 site or key features of the site:** The closest site to the proposed development is the River Barrow and Nore SAC and this is located 9.3km downstream of the proposed development. This distance is sufficient to ensure that no impacts will occur.

**Resource requirements (water abstraction etc.):** No resources will be taken from any Natura 2000 site and there are no resource requirements that will impact upon any SAC or SPA.

**Emissions:** There will be no emissions to any designated site. Only clean surface water will be directed to any local watercourse.

**Excavation requirements:** Excavated material from the construction will be used on site. Any remaining will be disposed of in a responsible manner in a licensed facility away from any designated sites.

**Transportation requirements:** There will be no additional transportation requirements resulting from the proposed development and associated works that will have any impact upon the Natura 2000 sites identified.

**Duration of construction, operation, decommissioning etc:** Once construction begins, it should be complete within one year.

**Describe any likely changes to the nearby Natura 2000 sites arising as a result of:**

**Reduction of habitat area:** The proposed development lies outside the boundaries of the Natura 2000 sites identified in Section 3.3. There will be no reduction of designated habitat area. There will be no interference with the boundaries of any designated site.

**Disturbance to key species:** There will be no direct disturbance to any species listed in Annex I of the Birds Directive or Annex II of the Habitats Directive. There will be no reduction in water quality in the River Barrow SAC arising from the construction or operation of this development, therefore any indirect impacts upon listed species will be avoided. There are no records of protected species within the relevant 1km square of this proposed development.

**Habitat or species fragmentation:** There will be no habitat or species fragmentation within any SAC or SPA. No ecological corridors between the proposed site and any SAC or SPA will be damaged or destroyed.

**Reduction in species density:** There will be no reduction in species density within the SAC and SPA.

**Changes in key indicators of conservation value (water quality etc.):** There will be no negative impacts upon surface or ground water quality within any designated site. There will be no negative impacts upon the water quality in any designated site, specifically in the River Barrow and Nore SAC and SPA.

**Describe any likely impacts on the nearby Natura 2000 sites as a whole in terms of:**

**Interference with the key relationships that define the structure or function of the site:** It is not considered likely that there will be any impacts on the key relationships that define the structure or function of the Natura 2000 sites identified.

**Provide indicators of significance as a result of the identification of effects set out above in terms of:**

**Loss -** Estimated percentage of lost area of habitat: None

**Fragmentation:** None

**Disruption & disturbance:** None

**Change to key elements of the site (e.g. water quality etc.):** None



### 3.5 FINDING OF NO SIGNIFICANT EFFECTS

Finding of No Significant Effects Report Matrix	
Name of project	Proposed Upgrade of an Existing Pig Farm at Ardra, Bracknagh, Co. Offaly
Name and location of Natura 2000 site	The River Barrow and Nore SAC 9.3km downstream of the proposed development site.
Description of project	A small scale agricultural development in a licensed facility.
Is the project directly connected with or necessary to the management of the site?	No
Are there other projects or plans that together with project being assessed could affect the site?	No
The Assessment of Significance of Effects	
Describe how the project is likely to affect the Natura 2000 site	Having regard to the location, nature and scale of the proposed development, it is considered that there is no potential for significant effects either from the proposed development on its own or in combination with other plans and projects.
Explain why these effects are not considered significant	Not applicable as there is no potential for negative impacts
Describe how the project is likely to affect species designated under Annex II of the Habitats Directive.	No impacts likely
Data Collected to Carry out the Assessment	
Who carried out the assessment	Noreen McLoughlin, MSC, MCIEEM. Consultant Ecologist
Sources of data	NPWS, EPA, National Biodiversity Data Centre, Offaly County Council
Level of assessment completed	Stage1 Appropriate Assessment Screening
Where can the full results of the assessment be accessed and viewed	Full results included

#### **4 APPROPRIATE ASSESSMENT CONCLUSION**

It can be concluded objectively that should this development be granted planning permission, that there will be no impacts upon the integrity or the conservation objectives of the River Barrow and Nore SAC. The habitats and species associated with this site will not be adversely affected. This proposed development does not need to proceed to Stage II of the Appropriate Assessment process.

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## 5 BEST PRACTICE MEASURES

Whilst the proposed development will have no impacts upon the integrity of any area that has been designated as a Natura 2000 site, it is usually best practice to undertake certain best practice measures during the construction and operation of any development. These measures will help to protect the local biodiversity of the surrounding area and ensure the protection of local water quality and wildlife. Therefore it is recommended that the following measures are implemented:

### CONSTRUCTION

- Site preparation and construction should adhere to best practice and should conform to the Inland Fisheries Ireland Requirements for the Protection of Fisheries Habitats during Construction and Development Works and River Sites ([www.fisheriesireland.ie](http://www.fisheriesireland.ie)).
- It is vital that there is no deterioration in water quality in the watercourses in the vicinity of the development, in particular the Figile River. This will protect habitats, fish species and mammal species (such as the otter) that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the demolition and construction process must be implemented, including the provision of attenuation measures, silt traps or geotextile curtains to reduce and intercept sediment release into any local watercourses. The protection of water quality in this area is of upmost importance.
- There should be no discharges of contaminated waters to ground or surface waters from these developments. Post construction surface water run-off from hardcore / concreted / tarmac areas should be directed into a soak-pit. If soak-pit disposal is not viable or practical, then surface water run-off from these areas should be treated via serviced sediment and oil interceptor traps, prior to discharge into any watercourse.
- The existing structures at Ardra that are to be retained should be surveyed and checked to make sure that they sufficiently sound and will not result in the release of effluent and slurry.
- There must be no disturbance to the banks or riparian habitats along the Figile River.
- Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from watercourses. Refuelling of machinery, etc., should be carried out in bunded areas.

- Any bulk fuel storage tank should be properly bunded with a bund capacity of at least 110% of that of the fuel tank.
- Stockpile areas for sands and gravel should be kept to a minimum size, well away from the drains and watercourses.
- The principles of Sustainable Urban Drainage Systems (SUDS) should be adhered to on site at all phases of construction and operation.
- The applicant must ensure that any excavated soil is used / disposed of responsibly. Its disposal should not lead to the loss or damage of any natural or semi-natural habitats elsewhere. It should not be spread close to any local watercourse as it may result in an increase in the sediment load of that watercourse.
- A Construction Management Plan for the construction and demolition works at the proposed development site should be prepared. Details on how proposed mitigation measures will be implemented should be detailed as part of this plan.
- An emergency response plan should also be prepared and approved prior to any construction. This will ensure that should any spill occur into Figile River, that a cohesive and fast response will ensue in order to limit damage.
- Should this development receive consent, then contractors should be made aware of the ecological sensitivity of the water receptors prior to the commencement of any works.
- All works associated with the development should be confined to the proposed development site.
- All waste associated with the development should be disposed of in an environmentally friendly manner. Registered contractors should only be used.
- Any landscaping should involve the planting of native Irish species that are indigenous to the site. The characteristics of newly planted hedgerows should mimic those in the surrounding area.

#### OPERATION

- The storage and handling of all wastes and fertilisers on site must be in accordance with S.I. 31 of 2014.

- Details of the storage and management of any feed stuffs on site should be provided. They must be stored away from any drains and watercourses and handling should also take into account their potential to act as a pollutant in watercourses.
- All employees of the facilities should be aware of the sensitivity of the drains and streams in the locality.

### **LAND-SPREADING**

In order to avoid any reductions in water quality within the River Barrow catchment as a whole, all organic fertiliser should be allocated for use in accordance with S.I. 31 of 2014 European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2014). The following measures may be considered and should be advised to the customer farmers.

- Slurry should only be applied to fields with an N and P requirement.
- Fields *within* any area that has been designated as an SAC, SPA or NHA should be excluded from land-spreading.
- A minimum buffer zone of 20m should be put in place and adhered to for areas which are *adjacent* to any area that has been designated as an SAC, SPA or NHA. These buffer zones should be increased depending on the gradient of the land.
- To avoid contamination of the local watercourses in areas identified for land-spreading, a minimum buffer zone of 10m for any main river channels and 5m for smaller watercourses should be adhered to at all times during the application of effluent. Buffer zones should be increased depending on the gradient of the land. In addition, when the waterbody is with 1km upstream of a water dependent designated site the buffer for a river should be increased to 20m while a stream should be increased to 10m.
- Effluent should not be applied within 3m of open field drains or ditches in accordance with Good Agricultural Practice for Protection of Water 2014 SI 31 of 2014.
- Land spreading should only take place when suitable climatic and environmental conditions exist. Spreading must be avoided on:
  - wet or waterlogged soils
  - land sloping steeply towards water courses
  - frozen or snow covered soils
- Effluent should not be applied in proximity of hedgerows and field margins. This will maintain the biodiversity of these areas and allow for a more natural ecological corridor.



- New technologies for spreading slurry that improve efficiency and minimize emissions should be considered, e.g., bandspreader, trailing shoe and the shallow injection technique.
- All spreading of organic fertiliser arising from the development must be in accordance with the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2014).

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## APPENDIX I-NPWS SITE SYNOPSIS

**Site Name: River Barrow and River Nore SAC**

**Site Code: 002162**

This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlinton, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graiguenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore.

Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The Nore, for a large part of its course, traverses limestone plains and then Old Red Sandstone for a short stretch below Thomastown. Before joining the Barrow it runs over intrusive rocks poor in silica. The upper reaches of the Barrow also run through limestone. The middle reaches and many of the eastern tributaries, sourced in the Blackstairs Mountains, run through Leinster Granite. The southern end, like the Nore, runs over intrusive rocks poor in silica. Waterford Harbour is a deep valley excavated by glacial floodwaters when the sea level was lower than today. The coast shelves quite rapidly along much of the shore.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [1310] Salicornia Mud
- [1330] Atlantic Salt Meadows
- [1410] Mediterranean Salt Meadows
- [3260] Floating River Vegetation
- [4030] Dry Heath
- [6430] Hydrophilous Tall Herb Communities
- [7220] Petrifying Springs\*
- [91A0] Old Oak Woodlands

- [91E0] Alluvial Forests\*
- [1016] Desmoulin's Whorl Snail ( *Vertigo moulinsiana* )
- [1029] Freshwater Pearl Mussel ( *Margaritifera margaritifera* )
- [1092] White - clawed Crayfish ( *Austropotamobius pallipes* )
- [1095] Sea Lamprey ( *Petromyzon marinus* )
- [1096] Brook Lamprey ( *Lampetra planeri* )
- [1099] River Lamprey ( *Lampetra fluviatilis* )
- [1103] Twaite Shad ( *Alosa fallax* )
- [1106] Atlantic Salmon ( *Salmo salar* )
- [1355] Otter ( *Lutra lutra* )
- [1421] Killarney Fern ( *Trichomanes speciosum* )
- [1990] Nore Freshwater Pearl Mussel ( *Margaritifera durrovensis* )

Good examples of alluvial forest (a priority habitat on Annex I of the E.U. Habitats Directive) are seen at Rathsnagadan, Murphy's of the River, in Abbeyleix estate and along other shorter stretches of both the tidal and freshwater elements of the site. Typical species seen include Almond Willow ( *Salix triandra* ), White Willow ( *S. alba* ), Rusty Willow ( *S. cinerea* subsp. *oleifolia* ), Crack Willow ( *S. fragilis* ) and Osier ( *S. viminalis* ), along with Iris ( *Iris pseudacorus* ), Hemlock Water - dropwort ( *Oenanthe crocata* ), Wild Angelica ( *Angelica sylvestris* ), Thin - spiked Wood - sedge ( *Carex strigosa* ), Pendulous Sedge ( *C. pendula* ), Meadowsweet ( *Filipendula ulmaria* ), Common Valerian ( *Valeriana officinalis* ) and the Red Data Book species Nettle - leaved Bellflower ( *Campanula trachelium* ).

A good example of petrifying springs with tufa formations occurs at Dysart Wood along the Nore. This is a rare habitat in Ireland and one listed with priority status on Annex I of the E.U. Habitats Directive. These hard water springs are characterised by lime encrustations, often associated with small waterfalls. A rich bryophyte flora is typical of the habitat and two diagnostic species, *Cratoneuron commutatum* var. *commutatum* and *Eucladium verticillatum*, have been recorded.

The best examples of old oak woodlands are seen in the ancient Park Hill woodland in the estate at Abbeyleix; at Kyleadahir, on the Delour, Forest Wood House, Kylecorragh and Brownstown Woods on the Nore; and at Cloghristic Wood, Drummond Wood and Borris Demesne on the Barrow, though other patches occur throughout the site. Abbeyleix Woods is a large tract of mixed deciduous woodland which is one of the only remaining true ancient woodlands in Ireland. Historical records show that Park Hill has been continuously wooded since the 16th century and has the most complete written record of any woodland in the country. It supports a variety of woodland habitats and an exceptional diversity of species including 22 native trees, 44 bryophytes and 92 lichens. It also contains eight indicator

species of ancient woodlands. Park Hill is also the site of two rare plants, Nettle - leaved Bellflower and the moss *Leucodon sciurioides*. The rare Myxomycete fungus, *Licea minima* has been recorded from woodland at Abbeyleix.

Oak woodland covers parts of the valley side south of Woodstock and is well developed at Brownsford where the Nore takes several sharp bends. The steep valley side is covered by oak (*Quercus* spp.), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Downy Birch (*Betula pubescens*), with some Beech (*Fagus sylvatica*) and Ash (*Fraxinus excelsior*). All the trees are regenerating through a cover of Bramble (*Rubus fruticosus* agg.), Foxglove (*Digitalis purpurea*), Great Wood - rush (*Luzula sylvatica*) and Broad Buckler - fern (*Dryopteris dilatata*).

On the steeply sloping banks of the River Nore, about 5 km west of New Ross, in Co. Kilkenny, Kylecorragh Woods form a prominent feature in the landscape. This is an excellent example of a relatively undisturbed, relict oak woodland with a very good tree canopy. The wood is quite damp and there is a rich and varied ground flora. At Brownstown a small, mature oak dominated woodland occurs on a steep slope. There is younger woodland to the north and east of it. Regeneration throughout is evident. The understorey is similar to the woods at Brownsford. The ground flora of this woodland is developed on acidic, brown earth type soil and comprises a thick carpet of Bilberry (*Vaccinium myrtillus*), Heather (*Calluna vulgaris*), Hard Fern (*Blechnum spicant*), Common Cow - wheat (*Melampyrum pratense*) and Bracken (*Pteridium aquilinum*).

Borris Demesne contains a very good example of a semi - natural broad leaved woodland in very good condition. There is quite a high degree of natural re - generation of oak and Ash through the woodland. At the northern end of the estate oak species predominate. Drummond Wood, also on the Barrow, consists of three blocks of deciduous woods situated on steep slopes above the river. The deciduous trees are mostly oak species. The woods have a well established understorey of Holly, and the herb layer is varied, with Bramble abundant. The whitebeam *Sorbus devoniensis* has also been recorded here.

Eutrophic tall herb vegetation occurs in association with the various areas of alluvial forest and elsewhere where the flood plain of the river is intact. Characteristic species of the habitat include Meadowsweet, Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*), Ground Ivy (*Glechoma hederacea*) and Hedge Bindweed (*Calystegia sepium*). Indian Balsam (*Impatiens glandulifera*), an introduced and invasive species, is abundant in places.

Floating river vegetation is well represented in the Barrow and in the many tributaries of the site. In the Barrow the species found include water - starworts ( *Callitriche* spp.), Canadian Pondweed ( *Elodea canadensis* ), Bulbous Rush ( *Juncus bulbosus* ), water - milfoil s ( *Myriophyllum* spp.), the pondweed *Potamogeton x nitens*, Broad - leaved Pondweed ( *P. natans* ), Fennel Pondweed ( *P. pectinatus* ), Perfoliated Pondweed ( *P. perfoliatus* ) and crowfoots ( *Ranunculus* spp.). The water quality of the Barrow has improved since the vegetation survey was carried out (EPA, 1996).

Dry heath at the site occurs in pockets along the steep valley sides of the rivers especially in the Barrow Valley and along the Barrow tributaries where they occur in the foothills of the Blackstairs Mountains. The dry heath vegetation along the slopes of the river bank consists of Bracken and Gorse ( *Ulex europaeus* ) with patches of acidic grassland vegetation. Additional typical species include Heath Bedstraw ( *Galium saxatile* ), Foxglove , Common Sorrel ( *Rumex acetosa* ) and Creeping Bent ( *Agrostis stolonifera* ). On the steep slopes above New Ross the Red Data Book species Greater Broomrape ( *Orobanche rapum - genistae* ) has been recorded. Where rocky outcrops are shown on the maps Bilberry and Great Wood - rush are present. At Ballyhack a small area of dry heath is interspersed with patches of lowland dry grassland. These support a number of clover species, including the legally protected Clustered Clover ( *Trifolium glomeratum* ) - a species known from only one other site in Ireland. This grassland community is especially well developed on the west side of the mud - capped walls by the road. On the east of the cliffs a group of rock - dwelling species occur, i.e. English Stonecrop ( *Sedum anglicum* ), Sheep's - bit ( *Jasione montana* ) and Wild Madder ( *Rubia peregrina* ). These rocks also support good lichen and moss assemblages with *Ramalina subfarinacea* and *Hedwigia ciliata* .

Dry heath at the site generally grades into wet woodland or wet swamp vegetation lower down the slopes on the river bank. Close to the Blackstairs Mountains, in the foothills associated with the Aughnabrisky, Aughavaud and Mountain Rivers there are small patches of wet heath dominated by Purple Moor - grass ( *Molinia caerulea* ) with Heather, Tormentil ( *Potentilla erecta* ), Carnation Sedge ( *Carex panicea* ) and Bell Heather ( *Erica cinerea* ).

Salt meadows occur at the southern section of the site in old meadows where the embankment has been breached, along the tidal stretches of in - flowing rivers below Stokestown House, in a narrow band on the channel side of Common Reed ( *Phragmites australis* ) beds and in narrow fragmented strips along the open shoreline. In the larger areas of salt meadow, notably at Carrickcloney, Ballinlaw Ferry and Rochestown on the west bank; Fisherstown, Alderton and Great Island to Dunbrody on the east bank, the Atlantic



and Mediterranean sub types are generally intermixed. At the upper edge of the salt meadow in the narrow ecotonal areas bordering the grasslands where there is significant percolation of salt water, the legally protected species Borrer's Saltmarsh - grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*) are found. The very rare and also legally protected Divided Sedge (*Carex divisa*) is also found. Sea Rush (*Juncus maritimus*) is also present. Other plants recorded and associated with salt meadows include Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Couch (*Elymus pycnanthus*), Spear-leaved Orache (*Atriplex prostrata*), Lesser Sea - spurrey (*Spergularia marina*), Sea Arrowgrass (*Triglochin maritima*) and Sea Plantain (*Plantago maritima*).

Glassworts (*Salicornia* spp.) and other annuals colonising mud and sand are found in the creeks of the saltmarshes and at the seaward edges of them. The habitat also occurs in small amounts on some stretches of the shore free of stones. The estuary and the other E.U. Habitats Directive Annex I habitats within it form a large component of the site. Extensive areas of intertidal flats, comprised of substrates ranging from fine, silty mud to coarse sand with pebbles/stones are present. Good quality intertidal sand and mudflats have developed on a linear shelf on the western side of Waterford Harbour, extending for over 6 km from north to south between Passage East and Creadaun Head, and in places are over 1 km wide. The sediments are mostly firm sands, though grade into muddy sands towards the upper shore. They have a typical macro invertebrate fauna, characterised by polychaetes and bivalves. Common species include *Arenicola marina*, *Nephtys hombergii*, *Scoloplos armiger*, *Lanice conchilega* and *Cerastoderma edule*.

The western shore of the harbour is generally stony and backed by low cliffs of glacial drift. At Woodstown there is a sandy beach, now much influenced by recreation pressure and erosion. Behind it a lagoonal marsh has been impounded which runs westwards from Gaul tierie Lodge along the course of a slow stream. An extensive reedbed occurs here. At the edges is a tall fen dominated by sedges (*Carex* spp.), Meadowsweet, willowherb s (*Epilobium* spp.) and rushes (*Juncus* spp.). Wet woodland also occurs.

The dunes which fringe the strand at Duncannon are dominated by Marram (*Ammophila arenaria*) towards the sea. Other species present include Wild Clary/ Sage (*Salvia verbenaca*), a rare Red Data Book species. The rocks around Duncannon ford have a rich flora of seaweeds typical of a moderately exposed shore and the cliffs themselves support a number of coastal species on ledges, including Thrift, Rock Samphire (*Crithmum maritimum*) and Buck's - horn Plantain (*Plantago coronopus*).

Other habitats which occur throughout the site include wet grassland, marsh, reed swamp, improved grassland, arable land, quarries, coniferous plantations, deciduous woodland, scrub and ponds.

Seventeen Red Data Book plant species have been recorded within the site, most in the recent past. These are Killarney Fern (*Trichomanes speciosum*), Divided Sedge, Clustered Clover, Basil Thyme (*Acinos arvensis*), Red Hemp-nettle (*Galeopsis angustifolia*), Borrer's Saltmarsh-grass, Meadow Barley, Opposite-leaved Pondweed (*Groenlandia densa*), Meadow Saffron/Autumn Crocus (*Colchicum autumnale*), Wild Clary/Sage, Nettle-leaved Bellflower, Saw-wort (*Serratula tinctoria*), Bird Cherry (*Prunus padus*), Blue Fleabane (*Erigeron acer*), Fly Orchid (*Ophrys insectifera*), Ivy Broomrape (*Orobanche hederæ*) and Greater Broomrape. Of these, the first nine are protected under the Flora Protection Order, 1999. Divided Sedge was thought to be extinct but has been found in a few locations in the site since 1990. In addition plants which do not have a very wide distribution in the country are found in the site including Thin-spiked Wood-sedge, Field Garlic (*Allium oleraceum*) and Summer Snowflake. Six rare lichens, indicators of ancient woodland, are found including *Lobaria laetevirens* and *L. pulmonaria*. The rare moss *Leucodon sciuroides* also occurs.

The site is very important for the presence of a number of E.U. Habitats Directive Annex II animal species including Freshwater Pearl Mussel (both *Margaritifera margaritifera* and *M. m. durrovensis*), White-clawed Crayfish, Salmon, Twaite Shad, three lamprey species – Sea Lamprey, Brook Lamprey and River Lamprey, the tiny whorl snail *Vertigo moulinsiana* and Otter. This is the only site in the world for the hard water form of the Freshwater Pearl Mussel, *M. m. durrovensis*, and one of only a handful of spawning grounds in the country for Twaite Shad. The freshwater stretches of the River Nore main channel is a designated salmonid river. The Barrow/Nore is mainly a grilse fishery though spring salmon fishing is good in the vicinity of Thomastown and Inistioge on the Nore. The upper stretches of the Barrow and Nore, particularly the Owenass River, are very important for spawning.

The site supports many other important animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat, Badger, Irish Hare and Common Frog. The rare Red Data Book fish species Smelt (*Osmerus eperlanus*) occurs in estuarine stretches of the site. In addition to the Freshwater Pearl Mussel, the site also supports two other freshwater mussel species, *Anodonta anatina* and *A. cygnea*.

Three rare invertebrates have been recorded in alluvial woodland at Murphy's of the River. These are: *Neoascia obliqua* (Order Diptera: Syrphidae), *Tetanocera freyi* (Order Diptera:

Sciomyzidae) and *Dictya umb rarum* (Order Diptera: Sciomyzidae). The rare invertebrate, *Mitostoma chrysomelas* (Order Arachnida), occurs in the old oak woodland at Abbeyleix and only two other sites in the country. Two flies (Order Diptera) *Chrysogaster virescens* and *Hybomitra muhlfeldi* also occur at this woodland.

The site is of ornithological importance for a number of E.U. Birds Directive Annex I species, including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bar-tailed Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Shanahoe Marsh and the Curragh and Goul Marsh, both in Co. Laois, and also along the Barrow Estuary in Waterford Harbour. There is also an extensive autumnal roosting site in the reedbeds of the Barrow Estuary used by Swallows before they leave the country. The old oak woodland at Abbeyleix has a typical bird fauna including Jay, Long-eared Owl and Raven. The reedbed at Woodstown supports populations of typical waterbirds including Mallard, Snipe, Sedge Warbler and Water Rail.

Land use at the site consists mainly of agricultural activities – mostly intensive in nature and principally grazing and silage production. Slurry is spread over much of the area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to the water quality of the salmonid river and to the populations of E.U. Habitats Directive Annex II animal species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers. There is net fishing in the estuary and a mussel bed also. Other recreational activities such as boating, golfing and walking, particularly along the Barrow towpath, are also popular. There is a golf course on the banks of the Nore at Mount Juliet and GAA pitches on the banks at Inistioge and Thomastown. There are active and disused sand and gravel pits throughout the site. Several industrial developments, which discharge into the river, border the site. New Ross is an important shipping port. Shipping to and from Waterford and Belview ports also passes through the estuary. The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (*Prunus laurocerasus*) and Rhododendron (*Rhododendron ponticum*). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above.

Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein. Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore it is of high conservation value for the populations of bird species that use it. The occurrence of several Red Data Book plant species including three rare plants in the salt meadows and the population of the hard water form of the Freshwater Pearl Mussel, which is limited to a 10 km stretch of the Nore, add further interest to this site.

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## ***Appendix No. 14***

# ***Landscaping Specifications***

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**MINIMUM SPECIFICATION FOR SCREENING BELTS AND SHELTER BELTS  
FOR FARMYARDS AND FARM BUILDINGS**

The receiving of this specification does not imply approval of a grant application. However, if written approval is issued, then this specification becomes part of the contract between the applicant and the Department of Agriculture, Fisheries and Food.

This is a minimum specification. Where the word "SHALL" is used, then that standard (at least) must be followed in grant-aided buildings. Where a procedure is "RECOMMENDED", this is advice only on good practice.

Note that all references to other Department Specifications are to the current edition of that specification [available on the Department of Agriculture, Fisheries and Food Website ([www.agriculture.gov.ie](http://www.agriculture.gov.ie)) under Farm buildings]. Similarly, references to Standards are to the current edition of the Irish, British or European Standard, as appropriate.

This specification describes the installation and maintenance of trees to screen or shelter a single farm building, or collection of buildings. **Screening** belts refer to rows or groups of trees planted to hide obtrusive buildings, or to soften their impact, particularly in scenic landscapes. **Shelter** belts may also screen buildings, but have the particular purpose of moderating strong winds around buildings and farmyards.

## **1. Safety**

### ***APPLICANT'S RESPONSIBILITY FOR SAFETY***

Applicants are reminded that they have a duty under the Safety, Health, and Welfare at Work Act 2005 to provide a safe working environment on the farm, including farm buildings, for all people who may work on that farm. There is a further duty to ensure that any contractor, or person hired to do building work, provides and/or works in a safe environment during construction. It is the farmer's responsibility to provide a construction stage project supervisor.

### ***SAFETY DURING CONSTRUCTION***

**Farmer/Applicant Responsibility:** Certain construction dangers may be encountered in the course of building or conversion work. Neither the Minister or any official of the Department will be in any way liable for any damage, loss or injury to persons, animals or property in the event of any occurrence related to the development and the applicant shall fully indemnify the Minister or any official of the Minister in relation to any such damage, loss or injury howsoever occurring during the development works.

**Dangers:** If any or all of the work is undertaken by the applicant/farmer he/she should seek competent advice and undertake all temporary work required to ensure the stability of excavations, superstructure, stanchion foundations and wall foundations,

also to divert any drains, springs or surface water away from the works, and to guard against possible wind damage, or any other foreseeable risk.

**Power lines:** Farm buildings shall not be constructed under or nearer than 10m to an overhead power supply. If advice is required, or if power lines need to be diverted, it is the applicant's responsibility to contact, in writing, the local ESB supervisor before construction commences, and then to follow the ESB conditions.

**Danger to children:** It is the applicant's responsibility to prevent children from playing or spending time in the vicinity of any building work.

## 2. Design and Layout of Screening Belts

Factors which influence the layout and the design of a **screening belt** are:-

- The direction from which obtrusive buildings have the greatest impact. This would frequently be the public road, but could also be a scenic viewing place, a neighbouring house or houses, or even the applicant's farmhouse.
- The fact that buildings are on a height or on a ridge making them highly visible from a distance.
- The likely future development of the farmyard:  
Trees should not block any obvious or useful sites for possible new buildings.
- Possible root damage to structures. Trees should be set about 20 metres or more from buildings, yards, concrete tanks, silos, etc.
- Buildings on adjoining property. No belts of trees should be planted within 30 metres of neighbouring dwellings or farm buildings.

When trying to soften the impact of obtrusive buildings it is not necessary to surround buildings or yards completely. One or two stands of reasonably tall trees can entirely change the appearance of a farmyard, and integrate it into the landscape, even if some buildings remain visible.

A single row of trees is not an effective screen, and usually looks unnatural. Two to three rows of trees should normally be planted, though informal groups of trees can be just as effective. Very long straight lines of trees should, where possible, be avoided by introducing curves or breaks.

## 3. Design and Layout of Shelter Belts

Factors which influence the design and layout of a **shelter belt** are:-

- The direction of prevailing winds, and of winds, which are particularly strong because of "funnelling" along valleys or around hills.
- The position of buildings or structures, which particularly need shelter (calf or sheep houses, animal yards, etc.)
- Future development of the farm, and distance from existing buildings or neighbouring buildings, as above.

Shelter belts work best when they allow about 50% of the wind to pass through. The wind should be slowed rather than blocked as for instance, by Lawson Cypress which simply cause turbulence. A mixture of species including spruces, pines, firs, and broad leaves will provide a naturally porous belt, providing good shelter.

Shelter belts should have about five or six rows of trees, though ten or more rows may be necessary where winds are very strongly funnelled. To be effective, shelter belts should extend in both directions well beyond the line of the structure(s) they are protecting.

Unless protection from strong south winds is essential, the area directly to the south of the building(s) should not be planted to ensure adequate sun and light.

#### **4. Site Preparation**

The site should be cleared of any scrub and furze and graded to blend with the immediate surroundings. As young trees establish more easily with some initial protection, all existing barriers such as hedges and stone walls should be retained, where possible.

#### **5. What to Plant**

The choice of species will be based on the following considerations:-

1. The suitability of different species for physical conditions on the site, i.e. -soil type, drainage, exposure etc.
2. The suitability of different species for the landscape. In general deciduous trees are more appropriate than most evergreens. Very narrow tall evergreens (Leyland and Lawson Cypress) should not be used. They draw attention to buildings and look alien in the Irish landscape. The best indicator of the most suitable species for an area are the trees already grown there successfully and look well (see appendix attached).
3. For both screening and shelter a mixture of species is recommended. Generally one species should predominate at about, 60-70% of planting, with one or two other species, grouped irregularly, providing the remainder. A mixture of too many species should be avoided, as should the use of different species placed in a regular alternating pattern in a long row.

#### **6. When to Plant**

Planting is carried out when the trees are dormant from October to April. Autumn planting is preferred for deciduous trees, while Spring planting March/April is best for evergreens.

#### **7. Handling and Planting**

Ensure that all preparatory work is completed before the trees are delivered. Tree roots must never be allowed dry out. Weather permitting; planting should commence immediately the trees arrive.

## 8. Pit Planting

This method is used on dry mineral soils. The young tree is inserted in a hole 150mm x 150mm x 150mm to the depth it was in the nursery soil. The roots should be teased prior to careful back-filling.

## 9. Ploughing and Mounting

Here planting is done by making a slit on the inverted sod/ribbon and inserting the tree so that the roots are between the two grass layers.

## 10. Spacing

Trees are spaced at two metres apart each way. This works out at 2,500 trees per hectare.

## 11. Fertilizer

Areas enclosed as fields and previously used for intensive farming normally require no further fertilizer. Other poorer areas may require a dressing of 400 kg/ha of rock phosphate. Some midland sites may require 200kg/ha of potash. A top dressing of nitrogen is beneficial to sitka spruce as growth rate is slow.

## 12. Fencing

All stock must be completely excluded from the new plantings. Fences must conform to specification S148. They should be kept close to the edge of the plantation to reduce their obtrusive impact on the landscape. In order to protect the young trees the fence should consist of a minimum of three strands of barbed wire plus one metre high sheep wire.

## 13. Maintenance of Screening Belt

It is essential to control growth of grass and weeds around the young trees during the first four years. Unchecked vegetation growth will result in poor tree establishment. Grass and weeds can be controlled by treading or by the use of suitable herbicides. Failures should be replaced each year.

**Note:** Herbicides shall not be used in close proximity to watercourses, field margins or wildlife habitats.

## 14. Minimum and Maximum Planting Areas

This specification refers **only** to the screening or shelter of farm buildings and farmyards.

The **minimum** area of planting for which this specification shall be used is 0.2ha. The **maximum** area that will be grant-aided is 2ha.

Shelter belts to protect herds or crops, or other forestry plantings on the farm, come under the responsibility of the Forest Service of this Department.



## General Guide to Tree Species for Irish Farm Conditions

### NATIVE BROADLEAVES

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Pedunculate Oak <i>Quercus Robur</i>	Well-aerated deep fertile loams. Will do well on heavier soils	Slow growing, long lived tree once the climax vegetation over most of the country	Very high quality timber suitable for many uses. Subject to timber defects when grown on adverse soils	Major forest species. One of our few native broadleaved trees. Very high amenity value
Sessile Oak <i>Quercus Petraea</i>	Tolerates less rich and lighter textured soils than <i>Q. robur</i>	Oaks will not produce good timber on excessively drained or sandy soils	Reputedly slightly better timber than <i>Q. robur</i> but site should determine choice	Major forest species. Native to Ireland. Now designated as Irish national tree
Ash <i>Fraxinus Excelsior</i>	A very exacting species demanding good soil conditions, preferably sheltered, moist well-drained fertile loam soils	A fast growing species regarded as not being suitable for large scale planting	Very high quality timber. Suitable for veneer, furniture and implement handles. High shock resistance	Major forest species. Native tree. Its wide distribution belies the difficulty in producing good quality timber
Wild Cherry <i>Prunus Avium</i>	Fertile deep well-drained mineral soils. Preference for slightly acid soils but will do well on deep loams over limestone	Fast growing, light demanding, requiring considerable space. The only commercial broadleaved tree with attractive blossoms	Produces one of the most valuable furniture and veneer timbers with a reddish brown sheen. Also used for quality turnery products	Major forest species. Native tree. High quality timber production requires good silvicultural management. A very good farm forestry tree. May suffer from bacterial canker and aphid attack
Alder <i>Alnus spp</i>	Common alder is a very hardy accommodating species suitable for wet sites. Good wildlife species. Grey and Italian alders will tolerate and grow well on drier sites. Italian alder is has a preference for more alkaline sites	Fast growing nitrogen fixing tree. Suitable broadleaf for even the wettest sites	Durable general purpose timber with a coarse texture. Less used in recent times	Minor forest species. Common Alder is a native tree. Coppices freely and can be used in mixtures on very infertile sites. Valuable shelter tree
Birch <i>Betula spp</i>	Pioneer species suited to very acid soils and peats	Fast growing, hardy species, withstands exposure and frost well. Useful as a nurse crop in mixtures but must be kept under control or it will smother a slower growing tree species	Not regarded as a timber tree in Ireland. Is used for pulp in Scandinavia	Minor forest species. Native tree. Young trees coppice freely. May be used as a soil improver. Can be mixed into shelterbelts
Willow <i>Salix spp</i>	Useful species for wet sites and streamsides	Fast growing useful for conservation and amenity but rarely for timber production. Willow can be used in a variety of ways as a shelterbelt system	Willow rods are regularly used for basket-making and decorative craftwork	Minor forest species. Native tree. Willow is currently being intensively studies as a suitable species for Short Rotation Forestry (Biomass) as an energy source
Whitebeam <i>Sorbus Aria</i>	Most fertile mineral soils	Attractive amenity tree also suitable for shelter	Not a timber tree	Minor forest species. Native tree. Tolerant of exposed and coastal sites
Rowan <i>Sorbus Aucuparia</i>	Suitable for lowland and hill acidic sites. Will tolerate even alkaline sites	Hardy tree suitable for exposed sites. Widely used amenity tree	Not a timber tree	Minor forest species. Native tree. Offers good support for wildlife

### NON-NATIVE BROADLEAVES

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Beech <i>Fagus Sylvatica</i>	Well drained, loamy, fertile soils with a preference for soils derived mainly from limestone	Tolerant of shade when young. Creates dense shade and suppresses ground vegetation as it reaches maturity	Excellent timber. Wide range of uses including veneer, furniture, flooring and panelling	Major forest species. Non-native tree. Benefits from a nurse on exposed sites. Useful for under-planting. Grey squirrels can be very destructive particularly to young beech
Sycamore <i>Acer</i> <i>Pseudoplatanus</i>	Prefers a moderately fertile free draining soil. Tolerant of calcareous soils	Fast growing tree that seeds easily. Withstands exposure and smoke pollution very well	Tough, durable, white timber with a range of uses. Figured sycamore is much sought after for veneer and furniture manufacture	Major forest species. Non-native tree. Grey squirrels can be very harmful. A windfirm tree. Rich in wildlife value. Valuable for shelter
Poplars <i>Populus</i> Hybrid clones	Very exacting species requiring deep, well drained moderately fertile sites	Very fast growing, light demanding tree. Some species susceptible to bacterial canker, select disease resistant clones only	Light hardwood timber with many uses. Suitable for veneer, furniture, joinery, plywood, palletwood and fruit boxes	Potentially major forest species. Non-native tree. Offers great prospects as Short Rotation Forestry species for pulpwood, paper and particle board
Red Oak <i>Quercus Rubra</i>	Grows well on poor sandy soils	A fast growing tree, less suited to heavy soils	Yields good pale reddish brown timber, straight grained and easy to leave but not quite so strong as Q. robur	Minor forest species. Non-native tree. High amenity because of its red and russet colours in the autumn
Horse Chestnut <i>Aesculus</i> <i>Hippocastanum</i>	Thrives on all except waterlogged sites but has a preference for fertile soils	An excellent amenity tree used mainly for avenues or as a specimen tree	Timber is soft, weak and of limited use	Minor forest species. Non-native tree
Walnut <i>Juglans spp</i>	Deep, well drained, loam textured, moderately fertile soil. Suitable for well sheltered sites with a southerly aspect	<i>J. nigra</i> grows somewhat faster than <i>J. regia</i> but timber may not be as highly figured. Worth pruning to give a clean stem	Strong, tough elastic, high value timber. Valuable decorative timber much used for furniture and veneer	Potentially major forest species. Non-native tree. Abnormal growths called "burr walnut" are much sought after for veneer, an example of diseased or malformed wood being more valuable than healthy timber
Lime <i>Tilia spp</i>	Grows on a wide range of sites, but prefers moist fertile limestone soils	Relatively fast growing. Suitable for planting as an amenity tree. Attracts swarms of aphids in summertime causing sticky "honeydew" to cover foliage that drips off to ground vegetation	A very soft, light, white or yellow timber of limited use, although can be used for turnery and wood carving	Minor forest species. Non-native tree. Tree flowers are strongly scented and a great attraction for many insects and a rich source of nectar for bees
Norway Maple <i>Acer Platanoides</i>	Prefers a deep, moist, alkaline soil. Tolerates less fertile and drier sites than sycamore. Avoid exposed sites and frost hollows	Fast growing tree when young. An attractive amenity tree. Greenish yellow flower makes a beautiful sight in early spring. Brilliant red, green and gold coloured leaves in the autumn	Same as sycamore and used for similar purposes, but slightly inferior and not as attractively grained	Minor forest species. Non-native tree. Grey squirrel can be very damaging

## CONIFERS

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Sitka Spruce <i>Picea Sitchensis</i>	Prefers wet mineral soils and peats with previous agricultural use. Well suited to high rainfall areas, quite tolerant of exposed sites	Very fast growing tree. Avoid low rainfall areas, very dry and frost prone sites. Do not plant in single rows for shelter	Reasonably valuable whitewood. General-purpose timber known as "white deal". Used widely in the general building and construction industry	Major forest species. Non-native tree. An excellent pulpwood tree for paper, fibre and particle-board industries
Norway Spruce <i>Picea Abies</i>	Prefers less acid mineral soils and peats	Not as fast growing or as tolerant of poor sites and exposure as sitka. More suitable for planting in hollows than sitka, being more resistant to frost damage	Somewhat superior to sitka making it also suitable for joinery	Major forest species. Non-native tree. Good drainage is important to avoid windthrow. Poor wildlife tree because of its very dense shade. Suitable for shelter
Douglas Fir <i>Pseudotsuga Menziesii</i>	Prefers a moist deep well drained soil of moderate fertility	A fast grower on suitable sites. Ideally suited to sheltered valley slopes. Dislikes waterlogged and shallow soils	An excellent timber of good strength and quality, sometimes referred to as "Oregon pine" it is used for building, flooring, joinery and other uses. Much in demand for transmission poles	Major forest species. Non-native tree. Delayed thinning of crop may lead to windthrow. Poor wildlife value
Lodgepole Pine <i>Pinus Contorta</i>	Grows on the poorest of mineral and peat soils	A fast growing pioneering species. Withstands exposure better than most other species. Up to recent times was widely planted on even the most difficult of sites	A general-purpose timber, suitable for building, joinery and other uses	Minor forest species now. Non-native tree. Suffers greatly from "basal sweep" reducing the quality of the log. One of the best shelter tree species
Larch <i>Larix spp</i>	European larch prefers moist, well drained, moderately fertile loams while both Japanese and hybrid larch will tolerate a wider range of sites with a preference for high rainfall areas	Larches are strong, light demanding, deciduous conifers. First generation hybrid is normally faster growing than Japanese and both are faster than European	All larches produce dense valuable commercial timber which is both heavier and stronger than most other softwoods	Major forest species. Non-native tree. Larches have a high amenity and wildlife value. Produces light shade allowing ground vegetation
Scots Pine <i>Pinus Sylvestris</i>	Thrives on light textured or sandy soils. Tolerant of acid conditions. Avoid poorly drained or alkaline soils and exposure to coastal winds	A strong, light demanding slow growing tree. Can be used as a nurse species. Unsuitable for high elevations or shelter-belt	Good general-purpose softwood timber referred to as "red deal" in the trade. Suitable for construction, flooring, joinery and other uses	Major forest species. Once native but died out, now comes from imported sources. Regarded as the best conifer for both amenity and wildlife. Attracts insects, birds and red squirrels

## CONIFERS

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Monterey Pine <i>Pinus Radiata</i>	Light to medium textured free draining loam soils. Can be used on infertile sandy soils. Not frost hardy	Very fast growing tree but often of poor coarse branched form. Requires careful attention to seed selection preferably from New Zealand. Early and heavy pruning helps to produce a worthwhile crop	Not much known about quality of Irish grown timber. Widely used general-purpose timber in southern hemisphere, New Zealand, Australia and Chile	Minor forest species. Non-native tree. A species with potential if quality seed stock can be produced. Suitable for shelterbelts in coastal areas
Western Red Cedar <i>Thuja Plicata</i>	Requires deep free draining fertile soil. Good on alkaline soils. Avoid poor or very acid soils and exposed sites	Shade tolerant moderately fast growing tree. Useful for under-planting	Produces a lightweight timber of moderate strength. Very durable in outdoor situations, suitable for greenhouses, decking and cladding	Minor forest species. Non-native tree. Regarded as good estate tree suitable for screens, mixtures and game cover
Western Hemlock <i>Tsuga Heterophylla</i>	Can tolerate acid mineral soils and the better peats. Suitable for low rainfall areas. Avoid planting on sites where previous conifer crop suffered from butt rots	Moderate growth rates. A strong shade bearer and excellent for under-planting. Probably best established under some shade	Good durable timber suitable for quality building purposes	Minor forest species. Non-native tree which has potential for greater use
Noble Fir <i>Abies Noblis</i>	Prefers well-drained mineral soils. Tolerates moderately acid soils and is less frost tender than other firs. Has a wide pH tolerance	A fast growing tree unsuitable for very poor and dry sites. Christmas tree production may require somewhat less fertile soils	Timber may be (unfairly) regarded as being of inferior quality. Now mostly grown for Christmas tree production and foliage	Minor forest species now developing multiple uses. Non-native tree. When grown for Christmas tree production need to be well managed to produce a compact well furnished tree
Corsican Pine <i>Pinus Nigra var. Maritima</i>	Wide range of soils from sands to heavy clays. Suitable for coastal areas	Moderate growth rates but a good tree for difficult areas such as exposed areas or sandy soil	Similar to scots pine but not quite as good	Minor forest species. Non-native tree. More resistant to smoke pollution than most conifers. Suitable shelter tree
Cupressus like species <i>Cupressus</i> <i>Chamaecyparis</i> <i>Cupressocyparis</i>	Tolerate a wide range of soils except very acid soils and raw peats	Moderate to fast growth rates but very poor stem form or coarse branching. In most cases	General purpose softwood uses	Minor forest species. Non-native tree. <b>Macrocarpa</b> suitable for shelter in coastal areas. <b>Leyland and Lawson</b> although widely used for shelter-belt and screening are in most cases inappropriate and an intrusion in the landscape

## ***Appendix No. 15***

***Details relating to a number of noise surveys carried out on pig farms in the Cavan region.***

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## Measurement Parameters

### **L<sub>eq</sub> Values**

L<sub>eq</sub> (t) values represent the continuous equivalent sound level over a specified time (t). This value expresses the average levels over time and is a linear integral.

### **Max. P Values**

The Max. P value represents the maximum sound pressure level produced by a source during the monitoring period.

### **L<sub>90</sub> and L<sub>10</sub> Values**

The L<sub>90</sub> and L<sub>10</sub> values represent the sound levels exceeded for a percentage of the instrument measuring time. L<sub>10</sub> indicates that for 10% of the monitoring period, the sound levels were greater than the quoted value. L<sub>10</sub> is a good statistical parameter for expressing event noise such as passing traffic. The L<sub>90</sub> represents post event sound levels and is a good indicator of background noise levels.

## EQUIPMENT USED

Cirrus 703A Type One Sound Level Meter

Serial No. 024818

Calibration Certificate Number

103602

Microphone Type:MK224

Serial No. 970065

Tripod

Calibrator CR 513A

Serial No. 024602

Calibration Certificate Number

101432

### On Site Calibration.

The instrument was calibrated immediately before and after the measurement periods with no drift in calibration level noted.

RESULTS OF MEASUREMENTS - FARM 1 (Day-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	65.3	105.6	48.8	39.4
N2	47.1	66.2	43.2	34.9
N3	38.4	57.8	40.0	33.2
N4	46.7	73.3	48.6	43.6
N5	54.6	78.3	42.4	34.0

RESULTS OF MEASUREMENTS - FARM 1 (Night-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	33.2	45.9	34.2	30.6
N2	37.0	47.2	37.0	36.2
N3	35.1	54.2	36.8	31.6
N4	40.2	51.4	43.6	35.0
N5	31.3	45.2	31.3	30.6

RESULTS OF MEASUREMENTS - FARM 2 (Day-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	44.2	53.6	45.1	41.7
N2	44.6	60.8	45.4	41.7
N3	52.1	64.3	56.0	42.9
N4	47.5	63.8	48.2	42.8
N5	73.8	89.0	77.1	42.7

RESULTS OF MEASUREMENTS - FARM 2 (Night-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	37.3	58.9	38.2	32.6
N2	41.7	53.8	43.3	37.8
N3	43.0	66.2	45.4	39.2
N4	40.6	69.5	43.8	35.5
N5	42.7	61.9	47.2	35.4

RESULTS OF MEASUREMENTS - FARM 3 (Day-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	50.4	70.3	43.3	30.6
N2	40.2	75.9	42.0	37.2
N3	37.2	66.2	36.0	31.2
N4	34.9	70.2	36.6	30.6
N5	56.1	72.5	58.1	30.7

RESULTS OF MEASUREMENTS - FARM 3 (Night-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	39.8	60.1	39.8	31.0
N2	34.8	44.8	39.0	30.8
N3	33.5	47.2	36.8	31.8
N4	34.0	48.1	37.3	32.0
N5	36.2	54.9	38.0	34.2

RESULTS OF MEASUREMENTS - FARM 4 (Day-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	43.7	63.8	42.8	34.7
N2	49.5	66.0	52.8	37.4
N3	59.8	88.7	62.8	47.8
N4	50.5	63.3	53.2	43.7
N5	54.3	94.4	53.0	40.0

RESULTS OF MEASUREMENTS - FARM 4 (Night-time)				
Location No.	L <sub>eq</sub> dB(A)	Max.P.dB(A)	L <sub>10</sub> dB(A)	L <sub>90</sub> dB(A)
N1	32.3	72.6	35.2	30.8
N2	33.7	52.2	35.5	30.6
N3	36.2	53.0	37.9	31.2
N4	30.5	67.5	34.0	30.7
N5	33.5	50.7	35.5	31.0

<b>RESULTS OF MEASUREMENTS - FARM 5 (Day-time)</b>				
<b>Location No.</b>	<b>L<sub>eq</sub>dB(A)</b>	<b>Max.P.dB(A)</b>	<b>L<sub>10</sub>dB(A)</b>	<b>L<sub>90</sub>dB(A)</b>
<b>N1</b>	<b>61.9</b>	<b>84.8</b>	<b>54.0</b>	<b>40.8</b>
<b>N2</b>	<b>55.7</b>	<b>87.8</b>	<b>58.4</b>	<b>41.6</b>
<b>N3</b>	<b>40.6</b>	<b>64.7</b>	<b>40.0</b>	<b>36.1</b>
<b>N4</b>	<b>43.8</b>	<b>73.4</b>	<b>47.4</b>	<b>36.2</b>
<b>N5</b>	<b>47.6</b>	<b>69.7</b>	<b>48.0</b>	<b>42.5</b>

<b>RESULTS OF MEASUREMENTS - FARM 5 (Night-time)</b>				
<b>Location No.</b>	<b>L<sub>eq</sub>dB(A)</b>	<b>Max.P.dB(A)</b>	<b>L<sub>10</sub>dB(A)</b>	<b>L<sub>90</sub>dB(A)</b>
<b>N1</b>	<b>35.7</b>	<b>54.8</b>	<b>36.8</b>	<b>31.8</b>
<b>N2</b>	<b>32.3</b>	<b>43.5</b>	<b>33.3</b>	<b>30.6</b>
<b>N3</b>	<b>36.6</b>	<b>54.3</b>	<b>36.7</b>	<b>33.6</b>
<b>N4</b>	<b>34.5</b>	<b>59.0</b>	<b>36.4</b>	<b>31.4</b>
<b>N5</b>	<b>36.3</b>	<b>62.6</b>	<b>37.8</b>	<b>34.4</b>

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## DISCUSSION

CLW Environmental Planners Ltd. are consultants to the five pig rearing units being examined.

As part of the application process, environmental noise resulting from activities associated with the piggeries must be measured at nominated perimeter points and also at the nearest noise sensitive location. Measurements should be made during both day-time and night-time activities at the site.

Environmental noise resulting from activities at the site should not exceed 55.0dB(A)  $L_{eq}$  during the day-time (08.00 to 22.00hrs) and 45.0dB(A)  $L_{eq}$  during night-time (22.00 to 08.00hrs).

The  $L_{eq}$  value for location N1 (Farm 1 - day-time) was above the upper noise limit. However, this position is located adjacent to the piggery entrance and coincided with some movement of slurry tankers in to and out of the unit. This was also the reason for the relatively high Max. P value. When the  $L_{90}$  term, which effectively filters out the effects of the short term tractor noise, is considered as the indicator, then the noise level is considerably below the limit value.

Location N5 (Farm 2 - day-time) was above the limit but noise levels here were entirely associated with traffic on the adjacent national road.

At Farm 3, the  $L_{eq}$  value at location N5 was marginally above the limit. However, passing traffic was a considerable noise source.

Location N3 at Farm 4, when measured during day-time, was affected by intermittent hedge-cutting on the adjoining road.

Location N1 at Farm 5 is also situated along a road and traffic from it was a source of noise.

All measurements made during night-time were below the 45dB(A) limit value.

Based on the results, as recorded during the monitoring events, it is not considered that noise levels resulting from activities at any of these piggeries will have any significant impact on the local environment.



## ***Appendix No. 16***

### ***European Communities (Welfare of Farmed Animals) Regulations 2010 – S.I. 311 of 2010***

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STATUTORY INSTRUMENTS.

**S.I. No. 311 of 2010**

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EUROPEAN COMMUNITIES (WELFARE OF FARMED ANIMALS)  
REGULATIONS 2010

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**(Prn. A10/0932)**

S.I. No. 311 of 2010

EUROPEAN COMMUNITIES (WELFARE OF FARMED ANIMALS)  
REGULATIONS 2010

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CONDITIONS RELATING TO ANIMALS TO BE SLAUGHTERED OR KILLED



S.I. No. 311 of 2010

EUROPEAN COMMUNITIES (WELFARE OF FARMED ANIMALS)  
REGULATIONS 2010

I, BRENDAN SMITH, Minister for Agriculture, Fisheries and Food, in exercise of the powers conferred on me by section 3 of the European Communities Act 1972 (No. 27 of 1972) and for the purpose of giving effect to Council Directive No. 93/119/EEC of 22 December 1993<sup>1</sup>, Council Directive 98/58/EC of 20 July 1998<sup>2</sup>, Council Directive No. 1999/74/EC of 19 July 1999<sup>3</sup> and Commission Directive 2002/4/EC of 30 January 2002<sup>4</sup>, Council Directive No 2007/43/EC of 28 June 2007<sup>5</sup>, Council Directive No. 2008/119/EC of 18 December 2008<sup>6</sup> and Council Directive No. 2008/120/EC of 18 December 2008<sup>7</sup>, hereby make the following regulations-

Part 1

PRELIMINARY AND GENERAL

*Citation*

1. These Regulations may be cited as the European Communities (Welfare of farmed animals) Regulations 2010 and come into operation on 30 June 2010.

*Interpretation*

2. (1) In these Regulations—

“animal” means an animal (including fish, reptiles or amphibians) bred or kept for the production of food, wool, skin or fur or for other farming purposes;

“authorised officer” means-

- (a) an authorised officer within the meaning of section 17A (inserted by the Diseases of Animals (Amendment) Act 2001 (No. 3 of 2001)) of the Diseases of Animals Act 1966 (No. 6 of 1966),
- (b) an authorised person or inspector within the meaning of the Protection of Animals Kept for Farming Purposes Act 1984 (No. 13 of 1984),
- (c) an authorised officer within the meaning of the European Communities (Food and Feed Hygiene) Regulations 2009 (S.I. No. 432 of 2009),

<sup>1</sup>O.J. No. L 340 of 31.12.1993, p. 21.

<sup>2</sup>O.J. No. L 221 of 8.8.1998, p. 23.

<sup>3</sup>O.J. No. L 203 of 3.8.1999, p. 53.

<sup>4</sup>O.J. No. L 30 of 31.1.2002, p. 44.

<sup>5</sup>O.J. No. L182 of 12.7.2007 p. 19

<sup>6</sup>O.J. No. L010 of 15.1.2009 p. 7

<sup>7</sup>O.J. No. L047 of 18.2.2009 p. 5

*Notice of the making of this Statutory Instrument was published in  
“Iris Oifigiúil” of 2nd July, 2010.*

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(d) a member of the Garda Síochána,

(e) an officer of Customs and Excise, or

(f) a person appointed under Regulation 30;

“calf” means a bovine animal less than six months old;

“Calves Directive” means Council Directive No.2008/119/EC of 18 December 2008;

“Chicken welfare Directive” means Council Directive No 2007/43/EC of 28 June 2007;

“General Welfare Directive” means Council Directive No. 98/58/EC of 20 July 1998;

“Laying Hens Directive” means Council Directive No. 1999/74/EC of 19 July 1999 and Commission Directive 2002/4/EC of 30 January 2002;

“Minister” means Minister for Agriculture, Fisheries and Food;

“Pigs Directive” means Council Directive No. 2008/120/EC of 18 December 2008;

“premises” includes land, with or without buildings;

“registered veterinary practitioner” has the same meaning as in the Veterinary Practice Act 2005 (No. 22 of 2005);

“Slaughter Directive” means Council Directive No. 93/119/EEC of 22 December 1993.

(2) A word or expression that is used in these Regulations and is also used in the Chicken welfare Directive, the Calves Directive, the General Welfare Directive, the Laying Hens Directive, the Pigs Directive or the Slaughter Directive has, unless the contrary intention appears, the same meaning in these Regulations as it has in the Directive in which it occurs.

*Codes of practice*

3. (1) The Minister may-

(a) publish or cause to be published codes of practice, or

(b) adopt a code of practice published by another person (whether within the State or otherwise),

for the purpose of providing practical guidance relating to any of the purposes of these Regulations.

(2) The Minister may amend or replace a code of practice referred to in paragraph (1).

(3) A person who has in his or her possession or under his or her control an animal of a particular class or description shall have due regard to a code of practice (if any) that relates to an animal of that class or description or kept under similar types of management or husbandry practices, published or adopted in accordance with paragraph (1).

(4) If a person fails to comply with a code of practice, that person is not by reason only of that failure liable in any civil or criminal proceedings but the code of practice is admissible in evidence in proceedings and a court may take account of any failure to act in accordance with it in deciding any question in the proceedings.

## Part 2

### ANIMAL WELFARE GENERALLY

#### *Scope*

4. (1) This Part does not apply to—

- (a) an animal living in the wild,
- (b) subject to paragraph (2), an animal used in competitions, shows, cultural or sporting events or activities while being so used,
- (c) an experimental or laboratory animal that is the subject of a licence issued under the Cruelty to Animals Act 1876, or
- (d) an invertebrate animal.

(2) Notwithstanding paragraph (1), these Regulations apply to an animal of a kind or species that is normally bred or kept for the production of food, wool, skin, fur or feathers or for use in, or for the purpose of, the farming of land or of animal husbandry and, in particular, includes animals of the bovine, ovine, porcine and caprine species, equidae and poultry.

#### *Obligation to ensure welfare of an animal*

5. (1) A person shall take all necessary steps to ensure the welfare of an animal in his or her possession, in his or her control or under his or her care and to ensure that the animal is not caused unnecessary pain, suffering or injury.

(2) A person shall ensure that the conditions under which an animal (other than fish, a reptile or an amphibian) is bred or kept, having regard to its species and degree of development, adaptation and domestication, and to its physiological and ethological needs in accordance with established experience and scientific knowledge, comply with Schedule 1.

## Part 3

## WELFARE OF LAYING HENS

*Application of Part 3*

6. (1) This Part applies to premises where there are 350 or more laying hens.
- (2) This part is without prejudice to the generality of Regulation 5.

*General conditions for keeping laying hens*

7. A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a laying hen unless the hen is kept and reared in conditions that comply with Schedule 2.

*Free-range or barn systems*

8. (1) Subject to paragraph (3), the owner or person in charge of a barn or free-range system used to keep laying hens shall not confine, or cause or permit another person to keep or confine a laying hen unless the premises is equipped—

- (a) with either linear feeders providing at least 10 cm per hen or circular feeders providing at least 4 cm per hen,
- (b) with either continuous drinking troughs providing at least 2.5 cm per hen or circular troughs providing at least 1 cm per hen,
- (c) without prejudice to paragraph (4), with at least one nest for every seven hens, and
- (d) with, subject to paragraph (5), adequate perches without sharp edges, mounted other than above litter, that provide space of at least 15 cm in length per hen.

(2) A person shall not provide or use nipple drinkers or cups in a barn or free-range system unless, without prejudice to paragraph (3), there is at least one nipple drinker or cup for every ten hens.

(3) A person shall not keep a laying hen in a barn or free-range system where drinking points are plumbed in to a water supply unless, at least two nipple drinkers or cups are within reach of each hen.

(4) A person shall not keep a laying hen in a barn or free-range system in group nests unless there is a minimum of 1 square metre of nest space available for every group of a maximum of 120 hens.

(5) A person shall not keep a laying hen in a barn or free-range system unless the horizontal distance between perches is at least 30 cm and the distance between a perch and a wall is at least 20 cm.

(6) A person shall not keep a laying hen in a barn or free-range system unless a littered area, that covers at least one third of the ground surface, of at least 250 square centimetres per hen is provided.

(7) A person shall not keep a laying hen in a barn or free-range system unless the floor is constructed in a manner that adequately supports each forward facing claw of the laying hen.

(8) A person shall not keep a laying hen in a barn or free-range system if-

- (a) the laying hen has access to more than four different levels,
- (b) the headroom between different levels is less than 45 centimetres,
- (c) the hen does not have equal access to drinking and feeding facilities, or
- (d) droppings from one level may fall on another level.

(9) A person shall not keep a laying hen in a barn or free-range system if the laying hens have access to open runs unless-

- (a) there are several popholes, at least 35 centimetres high and 40 centimetres wide and extending along the whole length of the building, giving access to the outer area,
- (b) a total opening of 2 metres is available for each group of 1,000 laying hens,
- (c) open runs are of an area appropriate to the stocking density and nature of the ground in order to prevent contamination, and
- (d) the stocking density does not exceed 9 laying hens per square metre usable area.

(10) A person shall, if laying hens have access to open runs, ensure that the runs are equipped—

- (a) with appropriate shelter to protect the laying hens from predators and weather conditions, and
- (b) where necessary, with appropriate drinking troughs.

#### *Un-enriched cage systems*

9. (1) Subject to paragraphs (2) and (3), the owner or person in charge of an un-enriched cage system shall not keep a laying hen in a cage unless-

- (a) the cage has at least 550 unrestricted square centimetres of area (measured in a horizontal plane and not including non-waste deflection plates that may restrict the available area) available for each laying hen in the cage,



- (b) a feed trough, to which each laying hen has unrestricted access, the length of which measures at least 10 centimetres multiplied by the number of laying hens in the cage, is present in the cage.
- (c) subject to subparagraph (d), a drinking channel, to which each laying hen has unrestricted access, the length of which measures at least 10 centimetres multiplied by the number of laying hens in the cage, is present in the cage,
- (d) where drinking points are plumbed in, at least two nipple drinkers or cups are within reach of the cage,
- (e) the cage is at least 40 centimetres high over at least 65 per cent of its floor area and not less than 35 centimetres at any point,
- (f) the floor of the cage is constructed in a manner that adequately supports each forward facing claw of each hen,
- (g) the slope of the floor of the cage does not exceed 14 per cent or 8 degrees, and
- (h) the cage is fitted with suitable claw-shortening devices.

(2) A person shall not keep or rear laying hens in an un-enriched cage system built, renovated or brought into service for the first time after 1 January 2003.

(3) A person shall not keep or rear laying hens in an un-enriched cage system after 1 January 2012.

*Enriched cage systems*

10. (1) The owner or person in charge of an enriched cage system shall not keep a laying hen in an enriched cage system unless-

- (a) each cage has a total area of at least 2000 square centimetres,
- (b) at least 750 square centimetres, of which a minimum of 600 square centimetres is usable area, is available for each laying hen in each cage,
- (c) the height of each cage other than above the usable area is at least 20 centimetres at every point,
- (d) there is a nest in each cage,
- (e) adequate litter is available in each cage to permit pecking and scratching by each laying hen,
- (f) appropriate perches, that measure, in length, at least 15 centimetres multiplied by the number of laying hens in each cage, are present in the cage,

- (g) a feed trough, to which each laying hen has unrestricted access, that measures at least 12 centimetres multiplied by the number of laying hens in the cage, is present in each cage.
- (h) subject to subparagraph (i), a drinking system, to which each laying hen has unrestricted access, appropriate to the number of laying hens is provided in each cage,
- (i) if drinking points are plumbed in, at least two nipple drinkers or two cups are within reach of each laying hen,
- (j) there is a minimum aisle width of at least 90 centimetres between tiers of cages,
- (k) there is a minimum distance of 35 centimetres between the floor of the building and the bottom tier of cages, and
- (l) each cage is fitted with suitable claw-shortening devices.

#### *Register*

11. (1) The Minister shall cause to be established and maintained a register ("the Register") of all persons owning, keeping, rearing or having under their control laying hens.

(2) A person shall not own or have in his or her charge or under his or her control a laying hen if he or she is not entered in the Register in relation to the premises where the laying hen is located.

(3) An application under this Regulation shall be in writing, be in a form and include any information that the Minister may require.

(4) The Minister shall not consider an application for registration if the application does not contain all information sought by the Minister.

(5) The Minister may enter a person's name and particulars on the register, attach conditions to registration, vary a condition, refuse an application or revoke a registration.

(6) Without prejudice to the generality of paragraph (5), the Minister may refuse to enter a person's name on the Register, or may revoke registration if—

- (a) the application does not comply with this Regulation,
- (b) in the opinion of the Minister, the application contains a statement that is false or misleading in a material respect,
- (c) the premises to which the application or registration relates does not comply, in the opinion of the Minister, with these Regulations,
- (d) the person is, in the opinion of the Minister, not a fit person to keep laying hens,

- (e) he or she is satisfied that these Regulations have not been or will not be complied with,
- (f) the applicant or registered person has committed an offence, whether he or she has been convicted or not, under any enactment relating to animals, animal health, animal welfare or public health,
- (g) the applicant or registered person has failed to comply with a condition of registration,
- (h) a registered person has ceased to keep or rear laying hens at the premises to which registration relates,
- (i) a person is disqualified by a Court of competent jurisdiction under any enactment from keeping, dealing in or having charge or control of, directly or indirectly, laying hens, or
- (j) it is necessary, in the opinion of the Minister—
  - (i) to prevent the risk or spread of disease,
  - (ii) to eradicate disease, or
  - (iii) is necessary, incidental, supplementary or consequential for the purposes of giving effect to an act of the institutions of the European Union.

(7) Without prejudice to the generality of paragraph (5), the Minister shall refuse an application or revoke registration in accordance with paragraph (10) if the applicant or registered person has been convicted, on indictment, of an offence relating to an animal, animal health, animal welfare or public health.

(8) Other than in the case of refusal or revocation under paragraph (7) or (9), if the Minister proposes to revoke a registration, or to refuse an application, he or she shall—

- (a) notify applicant or registered person in writing of the proposal and of the reasons for the proposal, and that he or she may make representations to the Minister in relation to the proposal within 14 days of the notification,
- (b) consider a representation made before deciding whether to proceed with, modify or annul the proposal, and
- (c) notify the applicant or registered person of the decision and the reasons for the decision.

(9) If the Minister is of the opinion that it is necessary to prevent the risk of disease or to give effect to an act of an institution of the European Union, he or she may refuse an application or revoke a registration in accordance with paragraph (10).

(10) If the Minister refuses an application or revokes a registration in accordance with this paragraph, he or she shall—

- (a) notify the applicant or registered person in writing of the decision and the reasons for the decision, and that he or she may make representations to the Minister in relation to the decision within 14 days of the date of the notification,
- (b) consider a representation made, and
- (c) confirm, modify or annul the decision and notify the applicant or registered person of the decision and the reasons for the decision.

(11) A person to whom a registration is granted shall make such returns to the Minister as and when, and in a form that, the Minister may direct.

(12) A person to whom registration is granted ceases to be registered upon he or she informing the Minister, in writing that he or she has ceased to keep laying hens.

(13) The Minister may establish and maintain the register in a form that is not legible if it is capable of being converted into a legible form.

(14) If a person entered in the Register dies the Minister shall, without prejudice to paragraph (7), on the application of the personal representative of such person enter in the Register the name of the personal representative in place of that person.

(15) A person who, on the coming into operation of this Regulation, is registered under Regulation 10 of the Regulations revoked by Regulation 42 (1)(a) is considered to be registered under this Regulation and may be dealt with as if registered under this Regulation.

(16) On the coming into operation of these Regulations, an application for registration under Regulation 10 of the Regulations revoked by Regulation 42(1)(a) is considered to be an application for registration under this Regulation and shall be determined in accordance with this Regulation.

#### Part 4

##### WELFARE OF CHICKENS KEPT FOR MEAT PRODUCTION

###### *Application of Part 4*

12. (1) This Part applies to premises where there are 500 or more chickens kept for meat production but does not apply to premises—

- (a) with breeding stock only,
- (b) used solely as a hatchery,
- (c) used solely in connection with extensive indoor and free range chickens, or

(d) organically reared chickens.

(2) This part is without prejudice to the generality of Regulation 5.

*General conditions for keeping chickens meant for meat production*

13. A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a chicken meant for meat production—

(a) unless the chicken is kept and reared in conditions that comply with Part 1 of Schedule 3, and

(b) the stocking density on a premises or on an individual building on a premises—

(i) does not exceed 33 kilogrammes per square metre,

(ii) in the case of a premises that conforms to Parts 1 and 2 of Schedule 3, does not exceed 39 kilogrammes per square metre, or

(iii) in the case of a premises that conforms to Parts 1, 2 and 3 of Schedule 3, does not exceed 42 kilogrammes per square metre.

*Training*

14. (1) The Minister may approve appropriate training courses for the purpose of ensuring that a person has adequate training in the proper husbandry of chickens kept for meat production and, in particular, the matters listed in Part 4 of Schedule 3

(2) A person providing a course shall furnish—

(a) a person who has successfully completed a training course with a certificate (“certificate in chicken welfare”), and

(b) the Minister with the names and addresses of persons who have successfully completed the course.

(3) Notwithstanding paragraph (2)(a), the Minister may require a person to undergo additional training, if the Minister considers it necessary.

(4) A person shall not purport to act as the owner or keeper of chickens kept for meat production unless he or she has been issued with a certificate in chicken welfare.

(5) The owner or keeper of chickens kept for meat production shall provide, to persons engaged in rearing, handling or transport of the chickens, adequate training regarding the welfare of the chickens, and record the details of that training.

(6) Paragraph (4) does not apply to a person who, immediately before the making of these Regulations, was the keeper or owner of chickens kept for meat



production for a period of not less than five years (the proof of which rests with him or her).

## Part 5

### WELFARE OF CALVES AND PIGS

#### *Application of Part 5*

15. (1) This Part applies to—

- (a) calves confined for rearing or fattening, and
- (b) pigs confined for breeding, rearing or fattening.

(2) Regulations 19(1), (2), (3) and (4) and 20 apply to—

- (a) a premises built, rebuilt or used, for the first time for breeding, rearing or fattening pigs from 1 January 2003, and
- (b) all premises used for breeding, rearing or fattening pigs from 1 January 2013.

(3) This part is without prejudice to the generality of Regulation 5.

#### *Accommodation for calves and pigs*

16. (1) A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a calf or pig unless the conditions for keeping, rearing and fattening the calf or pig, as the case may be, comply with Part 1 of Schedule 4.

(2) A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a calf unless the conditions for keeping, rearing and fattening the calf comply with Part 2 of Schedule 4.

(3) A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a pig unless the conditions for keeping, rearing and fattening the pig comply with Part 3 of Schedule 4.

#### *Accommodation for calves*

17. (1) Subject to paragraph (3), the owner or person in charge of a premises built, rebuilt or brought into use on or after 1 January 1998 and used for rearing or fattening calves shall not confine, or cause or permit another person to confine a calf—

- (a) over eight weeks of age in an individual pen unless a registered veterinary practitioner certifies that the health or behaviour of the calf requires that it be isolated to receive treatment,

- (b) unless the pen in which the calf is confined is of a width at least equal to the height of the calf at the withers and of a length at least 10% greater than the body length of the calf, measured from the tip of the nose to the caudal end of the pin bone (tuber ischia).

(2) A person shall not keep, or cause or permit another person to keep, a calf in an individual pen with solid walls but a pen shall have perforated walls that ensure that a calf confined therein has direct visual and tactile contact with other calves unless the person is in possession of a certificate from a registered veterinary practitioner that states that the calf, due to health or behaviour, requires to be individually isolated to receive treatment.

(3) A person shall not keep calves in a group, or cause or permit another person to keep calves in a group, unless the unobstructed space available for each calf is at least equal to—

- (a) 1.5 square metres for each calf with a live weight of less than 150 kilogrammes,
- (b) 1.7 square metres for each calf with a live weight of 150 kilogrammes or more but less than 220 kilogrammes, and
- (c) 1.8 square metres for each calf with a live weight of 220 kilogrammes or over.

(4) A person shall not use, or cause or permit another person to use, premises built, rebuilt or brought into operation before 1 January 1998 for rearing or fattening calves unless the premises complies with paragraphs (1), (2) and (3).

(5) This Regulation does not apply to—

- (a) a calf kept with its mother for suckling, or
- (b) a premises with fewer than six calves.

#### *Accommodation for pigs*

18. (1) The owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not confine, or cause or permit another person to confine, a pig unless the floor area available to each weaner or rearing pig (other than sows and gilts after service) reared in a group is at least—

- (a) 0.15 square metres for each pig of an average weight of 10 kilogrammes or less
- (b) 0.20 square metres for each pig of an average weight of between 10 kilogrammes and less than or equal to 20 kilogrammes,
- (c) 0.30 square metres for each pig of an average weight of greater than 20 kilogrammes and less than or equal to 30 kilogrammes,

- (d) 0.40 square metres for each pig of an average weight of greater than 30 kilogrammes and less than or equal to 50 kilogrammes,
- (e) 0.55 square metres for each pig of an average weight of greater than 50 kilogrammes and less than or equal to 85 kilogrammes,
- (f) 0.65 square metres for each pig of an average weight of greater than 85 kilogrammes and less than or equal to 110 kilogrammes,
- (g) 1.00 square metre for each pig of an average weight of greater than 110 kilogrammes.

(2) A person shall not keep a pig or cause or permit another person to keep a pig in a building or part of a building if there are continuous noise levels, equal to or greater than 85dBA in the building or part thereof where pigs are kept.

(3) A person shall not keep a pig, or cause or permit another person to keep a pig unless the pig is kept where there is a light intensity of 40 lux or more for a continuous period of at least 8 hours in any 24 hour period.

*Accommodation for sows and for gilts after service*

19. (1) Subject to paragraphs (2) and (3), the owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not confine, or cause or permit another person to confine, either a sow or a gilt after service unless the floor area available to each sow or gilt after service reared in a group is at least—

- (a) a minimum of 2.50 square metres for each sow in a group of sows or gilts if there are fewer than 6 pigs in the group,
- (b) a minimum of 2.25 square metres for each sow in a group of sows or gilts if there are more than 5 but fewer than 40 pigs in the group,
- (c) a minimum of 2.03 square metres for each sow in a group of sows or gilts if there are 40 or more pigs in the group,
- (d) a minimum of 1.81 square metres for each gilt after service if there are fewer than 6 pigs in the group,
- (e) a minimum of 1.64 square metres for each gilt after service if there are more than 5 but fewer than 40 pigs in the group, or
- (f) a minimum of 1.48 square metres for each gilt after service if there are 40 pigs or more in the group.

(2) A minimum floor area of at least—

- (a) 1.3 square metres for each pregnant sow, or
- (b) 0.95 square metres for each gilt after service,

shall comprise a continuous solid floor and no more than 15% of the floor area referred to in this paragraph shall consist of openings designed for drainage.

(3) Subject to paragraph (4), the owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not confine, or cause or permit another person to confine, either a sow or a gilt in the period commencing 28 days after service and ending 7 days before the expected date of farrowing other than in—

(a) a group in a pen the sides of which are greater than 2.8 metres in length, or

(b) a group in a pen the sides of which are greater than 2.4 metres in length if there are no more than five sows or gilts in the group.

(4) A person may keep a sow or gilt to which paragraph (3) refers in an individual pen during the period mentioned in that paragraph if—

(a) there are no more than 9 sows on the premises, and

(b) the sow or gilt may turn easily in the pen

(5) A person shall not tether or cause or permit another person to tether a sow or gilt.

(6) A person shall not have in his or her possession or under his or her control a sow or gilt that has been tethered in contravention of paragraph (5).

*Use of concrete slatted floors*

20. The owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not keep, or cause or permit another person to keep, a pig on a concrete slatted floor unless—

(a) the maximum width of each opening is no more than—

(i) 11 millimetres in any floor where a piglet is kept,

(ii) 14 millimetres in any floor where a weaner is kept,

(iii) 18 millimetres in any floor where a rearing pig is kept, or

(iv) 20 millimetres in any floor where either a sow or a gilt after service is kept,

and

(b) the minimum width of each slat is at least—

(i) 50 millimetres in any floor where a piglet or weaner is kept, or

(ii) 80 millimetres in any floor where a rearing pig, a sow or a gilt after service is kept.

*Restrictions on certain procedures*

21. (1) Subject to paragraph (2), a person shall not carry out or cause or permit another person to carry out a procedure (other than for therapeutic or diagnostic purposes) on a pig that is likely to result in damage to, or loss of a sensitive part of the body or the alteration of the bone structure of, a pig other than—

- (a) non-routine, uniform reduction of corner teeth of piglets, by grinding or clipping, no later than 7 days after birth, leaving an intact smooth surface where injury has occurred to a sow's teats or to the tails or ears of another pig,
  - (b) reduction in length of boars tusks where necessary to prevent injury to other animals or for safety reasons,
  - (c) non-routine docking of part of the tail where injury has occurred to the tail or ear of a pig,
  - (d) castration of male pigs by means that do not involve tearing tissue, or
  - (e) nose ringing when the pig is kept in an outdoor husbandry system.
- (2) (a) Subject to paragraph (3), a procedure outlined in paragraph (1) may only be carried out under hygienic conditions by a registered veterinary practitioner or a person who has competence relating to, and experience of, the procedure.
- (b) A person shall only carry out a procedure specified in paragraph (1) (a) or (c) if the environment, stocking density or the management system in which a pig is reared would not, in the opinion of a registered veterinary practitioner who is familiar with the premises, and has been consulted in a professional capacity regarding the necessity of carrying out the procedure, facilitate injury to the pig.

(3) A person, other than a registered veterinary practitioner, shall not castrate or dock the tail of a pig older than 7 days.

(4) A registered veterinary practitioner shall not castrate or dock the tail of a pig older than 7 days unless the pig is under anaesthetic and additional prolonged analgesia administered by that registered veterinary practitioner.

*Import of calves or pigs*

22. A person shall not import—

- (a) a calf, or
- (b) a pig,

from a country that is not a member state of the European Union unless the calf or pig is accompanied by a certificate, issued by a competent authority in

that country, certifying that the animal has received treatment at least equal to the treatment provided for in these Regulations.

## Part 6

### SLAUGHTER OF ANIMALS

#### *Slaughter of an animal*

23. (1) A person shall take all necessary care during movement, lairaging, restraint, stunning, slaughter or killing of an animal to ensure that the animal is spared avoidable excitement, pain or suffering.

(2) This part is without prejudice to the generality of Regulation 5.

#### *General requirements for slaughterhouses*

24. (1) Subject to paragraph (2), the owner or person in charge of a slaughterhouse shall ensure that-

- (a) the construction, facilities and equipment of the slaughterhouse, and its operation, are such as to spare an animal any avoidable excitement, pain or suffering, and
- (b) a soliped, ruminant, pig, rabbit or poultry brought into the slaughterhouse is—
  - (i) moved and if necessary lairaged in accordance with Part 1 of Schedule 5,
  - (ii) restrained in accordance with Part 2 of Schedule 5,
  - (iii) stunned before slaughter or killed instantaneously in accordance with Part 3 of Schedule 5,
  - (iv) bled in accordance with Part 4 of Schedule 5.

(2) Subparagraph (1)(b)(iii) does not apply in the case of an animal subject to particular methods of slaughter required by certain religious rites, if the religious authority on whose behalf slaughter is carried out is competent to apply and monitor the special provisions which apply to slaughter according to the religious rites of that religion.

(3) A religious authority to which paragraph (2) applies shall operate under the responsibility of a registered veterinary practitioner.

#### *Other requirements for slaughterhouses*

25. (1) The owner or person in charge of a slaughterhouse or a person engaged in the slaughter of an animal shall ensure that-

- (a) instruments, restraint and other equipment and installations used for stunning or killing are designed, constructed, maintained and used in such a way as to achieve rapid and effective stunning or killing,



- (b) suitable spare equipment and instruments are kept at the place of slaughter for emergency use and that spare equipment and instruments are properly maintained and are inspected at least once a month,
- (c) subject to paragraph (2), a person shall not move, lair, restrain, stun, slaughter or kill an animal unless that person has the knowledge and skill necessary to perform the tasks humanely and efficiently, and
- (d) a person carrying out the slaughter of an animal takes all necessary care to ensure that the animal is rendered unconscious, killed or slaughtered in a manner or by a means that does not cause unnecessary, avoidable or excessive pain or suffering to the animal.

(2) If an authorised officer is of the opinion that a person employed for slaughtering or killing an animal does not possess the necessary skill, ability and professional knowledge, the owner or the person in charge of the slaughterhouse or other premises shall, in accordance with the directions of the authorised officer and subject to any time limits that he or she may specify, arrange a staff training programme enabling such person to obtain the required training in order to satisfy the standards appropriate to that type of employment.

(3) A person shall comply with a direction under paragraph (2).

*Requirements for slaughter or killing other than at a slaughterhouse*

26. A person shall not kill or slaughter or cause or permit another person to kill or slaughter a soliped, ruminant, pig, rabbit or poultry, which is to be killed or slaughtered other than at a slaughterhouse unless Regulation 24(1)(b)(ii), (iii) and (iv) are complied with.

*Disease control, fur animal, surplus chicks*

27. (1) A person shall not slaughter or kill or permit a person to slaughter or kill a soliped, ruminant, pig, rabbit or poultry, if it is to be slaughtered or killed for the purpose of disease control, other than in accordance with Part 5 of Schedule 5.

(2) A person shall not slaughter or kill or permit a person to slaughter or kill an animal farmed for its fur other than in accordance with Part 6 of Schedule 5.

(3) A person shall not slaughter or kill or permit a person to slaughter or kill surplus day-old chicks, and embryos in hatchery waste unless they are killed as rapidly as possible in accordance with Part 7 of Schedule 5.

*Emergency and humane killing and slaughtering*

28. (1) Regulations 25 and 26 do not apply in the case of an animal which has to be killed immediately for emergency reasons.

(2) Subject to paragraph (3), the owner or person in charge of a seriously injured or diseased animal shall ensure that it is slaughtered or killed immediately to avoid unnecessary suffering, unless a registered veterinary practitioner

considers, after examining the animal, that it is not necessary to slaughter or kill the animal.

(3) A registered veterinary practitioner may authorise the transport of an injured or diseased animal for the purpose of slaughter or killing provided the practitioner is of the opinion that transport does not entail further unnecessary suffering for the animal.

*Import of meat*

29. A person shall not import meat obtained from a soliped, ruminant, pig, rabbit or poultry from a third country unless it is accompanied by a veterinary certificate certifying that the animal had been slaughtered or killed under conditions which offer guarantees of humane treatment at least equivalent to that granted to an animal of European Union origin.

Part 7

AUTHORISED OFFICERS

*Appointment of authorised officer*

30. (1) The Minister may, by instrument in writing, appoint such and so many persons as he or she thinks fit to be authorised officers for the purposes of some or all of these Regulations as may be specified in the instrument.

(2) The manager of a local authority may by instrument in writing, appoint such and so many persons as he or she thinks fit to be authorised officers for the purposes of Part 6 of these Regulations.

(3) The Minister or manager of a local authority may terminate the appointment of an authorised officer appointed by him or her, whether or not the appointment was for a fixed period.

(4) An appointment as an authorised officer ceases-

(a) if it is terminated pursuant to paragraph (3),

(b) if it is for a fixed period, on the expiry of that period, or

(c) if the person appointed is an officer of the Minister or a local authority, upon the person ceasing to be such an officer.

(5) Nothing in paragraph (4) is to be construed so as to prevent the Minister or manager of a local authority from reappointing as an authorised officer a person to whom that paragraph relates.

(6) An officer of the Minister or of a local authority shall furnish an authorised officer appointed under this Regulation with a warrant of his or her appointment as an authorised officer and, when exercising a power conferred on him or her, the officer, an officer of Customs and Excise or a member of the Garda Síochána shall, if requested by a person affected, produce the warrant or evidence that he or she is such an officer or member to the person.

*Functions of authorised officer*

31. (1) If an authorised officer has reasonable cause to suspect that—

- (a) an animal is present, has been present or may be present on a premises,
- (b) an animal is or has been killed, slaughtered, processed, stored or otherwise dealt with on a premises, or
- (c) a document relating to an animal is present, was present or may be present on a premises,

the authorised officer may enter the premises and he or she may—

- (i) search the premises,
- (ii) stop a person, vehicle, vessel or container,
- (iii) board and search a vehicle, vessel or container,
- (iv) examine an animal, vehicle, vessel, container or other thing that may be used in connection with an animal,
- (v) take, without payment, samples from an animal, feed or other thing or an article, substance or liquid as he or she may reasonably require and carry out or cause to be carried out on a sample such tests, analyses, examinations or inspections as he or she considers necessary or expedient,
- (vi) require the production of a document or thing relating to an animal, feed, vehicle, vessel, container or other thing,
- (vii) retain a document or thing (for so long as is necessary),
- (viii) give a direction to, or request information of, a person regarding an animal, feed, vessel, vehicle, container, premises or other thing as he or she considers necessary,
- (ix) require the name and address of a person and the name and address of any other relevant person including the person to whom an animal or feed, is being delivered or who is causing it to be delivered,
- (x) require of a person the ownership, identity and origin of the animal or feed,
- (xi) make a record whether in writing, by photography or otherwise, or
- (xii) mark or otherwise identify an animal, feed, or a sample taken under subparagraph (v).

(2) If an authorised officer has reasonable cause to suspect that-

- (a) an offence is being or has been committed under these Regulations,
- (b) a contravention of an act of the institutions of the European Union relating to animal welfare is being or has been committed, or
- (c) evidence of an offence or contravention may be, is or has been on a premises-

the authorised officer may, in addition to the powers exercisable by him or her under subsection (1)—

- (i) search a person, where the authorised officer considers it necessary,
- (ii) seize and detain, an animal, carcass, animal product, animal by-product, animal feed, food, vessel, vehicle, container, equipment, machinery or other thing, or
- (iii) dispose of, or require the owner or person in charge of or in possession of an animal, carcass, animal product, animal by-product, animal feed, food or other thing to deal with or dispose of it (or any equipment, machinery, plant or other thing used in connection with, or that may have been in contact with, the animal, carcass, animal product, animal by-product, animal feed or food) in a manner that the authorised officer sees fit.

(3) An authorised officer shall not enter, except with the consent of the occupier, a private dwelling, unless he or she has obtained a search warrant under Regulation 32 other than if he or she has reasonable cause to suspect that before a search warrant could be sought in relation to the dwelling anything to which either paragraph (1) or (2) relates is being or is likely to be destroyed or disposed of.

(4) An authorised officer may use reasonable force, if necessary, in exercise of his or her powers under this Regulation.

(5) An authorised officer, when exercising a power under this Regulation may be accompanied by other persons and may take with him or her, or those persons may take with them, any equipment or materials to assist the officer in the exercise of the power.

(6) An authorised officer is not liable in any proceedings for anything done in the purported exercise of his or her powers under these Regulations if the court is satisfied that the act was done in good faith and that there were reasonable grounds for doing it.

(7) Without prejudice to the generality of paragraph (1), a direction or requirement of an authorised officer may include conditions prohibiting,

restricting or otherwise controlling the use, processing or movement of an animal as may be specified by the authorised officer.

(8) Nothing in this Regulation operates to prejudice any power to search, or to seize or detain property, which may, apart from these Regulations, be exercised by a member of the Garda Síochána or an officer of Customs and Excise.

(9) If a member of the Garda Síochána has reasonable grounds to suspect that a person has committed an offence under these Regulations, the member may without warrant arrest the person.

#### *Search warrant*

32. (1) If a judge of the District Court is satisfied by information on oath of an authorised officer that there are reasonable grounds for suspecting-

- (a) that evidence of, or relating to, the commission or intended commission of an offence under these Regulations is to be found on a premises,
- (b) there is or was an animal, feed, equipment or other thing made, used or adapted for use (including manufacture and transport) in connection with an animal or feed, on a premises,
- (c) a document or other record related to a thing to which subparagraph (a) or (b) refers is or may be on the premises,

the judge may issue a search warrant.

(2) A search warrant under this Regulation shall be expressed and operate to authorise a named authorised officer, accompanied by such authorised officers or other persons as the named authorised officer thinks necessary, at any time, within one month from the date of issue of the warrant, on production if so requested of the warrant, to enter (if necessary by use of reasonable force) the premises, vehicle, vessel or aircraft named in the warrant.

(3) If a premises is entered pursuant to a warrant issued under this Regulation, an authorised officer so entering may exercise all or any of the powers conferred on an authorised officer under these Regulations.

## Part 8

### WELFARE NOTICE AND EMERGENCY MEASURES

#### *Welfare Notice*

33. (1) If an authorised officer is of the opinion that—

- (a) an animal is being caused unnecessary pain, suffering or injury,
- (b) an animal is at risk of being caused unnecessary pain, suffering or injury,
- (c) there is a serious risk to the welfare of an animal, herd or flock or

- (d) the conditions under which an animal, herd or flock is being bred or kept contravene these Regulations,

he or she may serve or cause to be served on the owner or keeper of the animal, herd or flock a notice ("welfare notice") stating that opinion and directing that—

- (i) an ill or injured animal be cared for in an appropriate manner,
- (ii) veterinary or other specialist advice be obtained in respect of an ill or injured animal,
- (iii) an animal be supplied with feed appropriate to its age and species and in such quantity as will maintain it in good health,
- (iv) an animal be given access to such a supply of suitable liquid as will enable it to fulfil its fluid intake needs,
- (v) one or more animals be moved to and kept in such place as the officer specifies in the notice,
- (vi) one or more animals be sold, destroyed or otherwise disposed of in such manner and at such place (if any) as the officer may specify in the notice,
- (vii) such alterations or additions be made to the premises, land or place at which the animal is kept, or to the equipment and facilities found there as the officer may specify in the notice,
- (viii) such alterations be made to the manner in which the animal is kept as the officer may specify in the notice, or
- (ix) such other measures be taken as are necessary to ensure that the animal is kept in a manner that complies with these Regulations.

(2) A welfare notice may specify one or more requirements or refer to one or more animals or species of animal.

(3) A requirement contained in a welfare notice may specify a time limit within which it is to be complied with.

(4) A welfare notice may require the owner or keeper of the animal to choose between two or more of the requirements specified in the welfare notice.

(5) A requirement specified in a welfare notice (in this Regulation referred to as "the earlier welfare notice") may be modified or withdrawn in a further welfare notice and in that event the earlier welfare notice shall have effect subject to such modification or withdrawal.

(6) A person, including a person upon whom a welfare notice is served, shall not deal with an animal to which the welfare notice relates other than in accordance with the terms of the welfare notice.



(7) In the event of an appeal made pursuant to Regulation 35 a person, including the person appealing, shall not deal with an animal to which a welfare notice relates pending the determination of the appeal other than in accordance with such directions as shall be given in writing to the appellant by an authorised officer.

(8) If the terms of a welfare notice are confirmed with or without modification by the judge of the District Court hearing an appeal under Regulation 35, a person including the person who made the appeal shall not deal with an animal to which the welfare notice relates other than in accordance with the welfare notice as confirmed.

(9) Any costs pertaining to action required to comply with a welfare notice will be borne by the owner of the animal to which the welfare notice relates.

*Service of Welfare Notice*

34. (1) A welfare notice shall, subject to paragraph (2), be addressed to the person concerned by name and may be served on a person—

- (a) by giving it to the person,
- (b) by leaving it at the address at which the person ordinarily resides or, where an address for service has been furnished, at that address,
- (c) by sending it by post in a prepaid registered letter to the address at which the person ordinarily resides or, where an address for service has been furnished, at that address, or
- (d) if the address at which the person ordinarily resides cannot be ascertained by reasonable enquiry and the compliance notice relates to a premises, by delivering it to the premises or by affixing it in a conspicuous position on or near the premises.

(2) If a welfare notice is to be served on a person who is the owner or keeper of an animal and the name of the person cannot be ascertained by reasonable enquiry, it may be addressed to that person by using the words “the owner” or “the keeper”.

(3) A person shall not, at any time within 6 months after a welfare notice is affixed under paragraph (1)(d), remove, damage or deface the notification or compliance notice without lawful authority.

(4) For the purposes of this Regulation, a company within the meaning of the Companies Acts is considered to be ordinarily resident at its registered office and every other body corporate or unincorporated body is considered to be ordinarily resident at its principal office or place of business.

*Appeal against welfare notice*

35. (1) A person may appeal within 7 days of the service of a welfare notice to the judge of the District Court having jurisdiction in the District Court District where the animal to which the welfare notice relates is situated or to the

judge of the District Court where the person bringing the appeal ordinarily resides or carries on business on the grounds that the notice or any terms thereof are not justified having regard to these Regulations and the objectives of the Calves Directive, Chicken Welfare Directive, General Welfare Directive, Laying Hens Directive or Pigs Directive (hereafter referred to as "an appeal").

(2) An appeal may be heard at any sitting of the District Court within the appropriate District Court District.

(3) Notice of an appeal shall be served on the Minister at least 2 days prior to the hearing of the appeal by serving it on the Minister or by leaving it at the place and in the manner specified in the welfare notice.

(4) A notice of appeal shall contain a statement of the grounds upon which it is alleged that the notice or any of the terms thereof are not justified.

(5) A copy of the notice of appeal shall be lodged with the District Court Clerk in the manner specified in the welfare notice (if any) at least 2 days prior to the hearing of the appeal.

(6) On the hearing of an appeal under this Regulation a judge of the District Court may confirm, modify or annul a welfare notice.

*Power to seize and dispose of an animal*

36. (1) Without prejudice to Regulation 31 or 33, if—

- (a) the owner or keeper of an animal fails to comply with the terms of a welfare notice within the time limit specified therein,
- (b) an authorised officer has reasonable grounds for believing that the terms of a welfare notice will not be complied with,
- (c) a welfare notice has been confirmed with or without modification under Regulation 35 and the notice has not been complied with,
- (d) an authorised officer has reasonable grounds for believing that the terms of a welfare notice which has been confirmed with or without modification under Regulation 35 will not be complied with, or
- (e) pending the determination of an appeal made under Regulation 35, an authorised officer has reasonable grounds for believing that—
  - (i) a welfare notice, or
  - (ii) a direction given pursuant to Regulation 31,

has not been or will not be complied with, an authorised officer may at any time seize the animal at such premises as he or she thinks fit.

(2) An authorised officer may sell or dispose of a seized animal or cause it to be sold or be otherwise disposed of or destroyed in such manner and at such

place as the authorised officer considers appropriate in the circumstances of the case.

(3) Any profits arising out of the sale or disposal of an animal under this Regulation shall be paid to the owner of the animal less any expenses incurred in connection with seizure, maintenance, sale, disposal or destruction of the animal.

(4) The costs (including ancillary costs) of seizure, maintenance, sale, disposal or destruction of an animal under Regulation 31, this Regulation or Regulation 37 are, subject to paragraph (3), recoverable-

- (a) by deducting the costs from any sum that is or becomes payable by the Minister to the owner of the animal, or
- (b) as a simple contract debt in any court of competent jurisdiction from the person who was the owner of the animal at the time of seizure, sale, disposal or destruction took place.

#### *Emergency measures*

37. Notwithstanding Regulation 33(1), if an authorised officer who is a veterinary practitioner is of the opinion that an animal-

- (a) is suffering a degree of pain, suffering or injury, or
- (b) is seriously at risk of being subject to a degree of pain, suffering or injury,

and that measures should be taken immediately to relieve its pain or suffering or risk of pain or suffering, he or she may seize, sell, dispose of or destroy or may arrange for the sale, disposal or destruction of the animal.

#### Part 9

#### FINAL PROVISIONS

#### *Obstruction, etc*

38. A person shall not—

- (a) obstruct or impede an authorised officer in the exercise of his or her functions under these Regulations,
- (b) fail, without reasonable cause, to comply with a requirement or direction of an authorised officer under Regulation 31,
- (c) in purporting to give information to an authorised officer for the performance of the officer's functions under Regulation 31—
  - (i) make a statement that he or she knows to be false in a material particular or recklessly make a statement which is false in a material particular, or
  - (ii) fail to disclose a material particular,

(d) tamper or otherwise interfere with a sample taken under Regulation 31, or

(e) aid or abet a contravention of these Regulations.

*Forgery*

39. (1) A person shall not forge or utter knowing it to be forged a direction or requirement of an authorised officer under Regulation 31 (if the direction or requirement is in written form) or a welfare notice or a document purporting to be an extract therefrom (hereafter in this Regulation referred to as “a forged document”).

(2) A person shall not alter with intent to defraud or deceive, or utter knowing it to be so altered a direction or requirement of an authorised officer under Regulation 31 (if the direction or requirement is in written form) or a welfare notice or an extract therefrom (hereafter in this Regulation referred to as “an altered document”).

(3) A person shall not have, without lawful authority, in his or her possession or under his or her control a forged document or an altered document.

*Evidence on certificate*

40. (1) In proceedings for an offence consisting of a contravention of these Regulations, a certificate purporting to be signed by a person employed at a laboratory named in the certificate stating the capacity in which that person is so employed and stating any one or more of the following, namely—

(a) that the person received a sample submitted to the laboratory,

(b) that, for such period as is specified in the certificate, the person had in his or her custody a sample so submitted,

(c) that the person gave to such other person as is specified in the certificate a sample so submitted, or

(d) that the person carried out any laboratory examination and the result of that examination,

is, unless the contrary is proved, evidence of the matters stated in the certificate.

(2) A certificate purporting to be signed by an officer of the Minister and to certify that on a specific day or days or during the whole of a specified period—

(a) a particular person was registered in the register,

(b) the registration of a particular person had been revoked, or

(c) that a particular, registration was subject to a particular condition or conditions,

is, without proof of the signature of the person purporting to sign the certificate or that he or she is an officer of the Minister, evidence, unless the contrary is shown, of the matters stated in the certificate.

(3) In proceedings for an offence under these Regulations the court may, if it considers that the interests of justice so require, direct that oral evidence of the matters stated in a certificate under paragraph (1) or (2) be given, and the court may for the purpose of receiving oral evidence adjourn the matter.

(4) In proceedings for an offence, evidence of an act of the institutions of the European Community may be given by production of a copy of the act certified by an officer of the Minister to be a copy of the act, and it is not necessary to prove the signature of the officer or that he or she is an officer of the Minister.

(5) Paragraph (4) is in addition to and not in substitution for the European Communities (Judicial Notice and Documentary Evidence) Regulations 1972 (S.I. No. 341 of 1972).

#### *Offences*

41. (1) A person who—

(a) contravenes Regulation 5, 7, 8, 9, 10, 11 (2), (12), 13, 14(4), (5), 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 (1), (3), 26, 27, 28 (2), 29, 33 (6), (7), 34 (3), 38 or 39, or

(b) fails to comply with a direction or requirement of an authorised officer under Regulation 31 or the requirements of a welfare notice or a welfare notice confirmed with or without modification,

commits an offence and is liable—

(i) on conviction to a fine not exceeding €5,000 or to a term of imprisonment not exceeding 6 months or both, or

(ii) on conviction on indictment to a fine not exceeding €100,000 or to a term of imprisonment not exceeding 3 years or both.

(2) A summary offence under these Regulations may be prosecuted by—

(a) the Minister, or

(b) in respect of Part 6, the local authority in whose functional area the alleged offence occurs.

(3) If an offence under these Regulations is committed by a body corporate or by a person purporting to act on behalf of a body corporate or on behalf of an unincorporated body of persons and it is proved to have been so committed with the consent or connivance of or to be attributable to any wilful neglect on the part of any other person who, when the offence was committed, was, or purported to act as, a director, manager, secretary or other officer (including a member of any committee of management or other controlling authority) of the

body, such other person as well as the body, or the person so purporting to act on behalf of the body, commits an offence and is liable to be proceeded against and punished as if he or she were guilty of the first-mentioned offence.

(4) If the affairs of a body corporate are managed by its members, paragraph (3) applies in relation to the acts and defaults of a member in connection with the functions of management as if the member were a director or manager of the body corporate.

(5) In a prosecution for an offence under these Regulations, it is not a defence for the defendant to show that Regulation 6 applies to that person in respect of the premises to which the alleged offence relates if he or she is entered in the Register maintained under Regulation 11 unless he or she can show to the satisfaction of the Court that he or she has given notice in accordance with Regulation 11(13) and the Minister is put on notice of this defence no later than 10 days prior to the sitting of the Court where the case is heard.

*Revocation and savers*

42. (1) The following are revoked—

- (a) the European Communities (Welfare of farmed animals) Regulations 2008 (S.I. No. 14 of 2008).
- (b) the European Communities (Welfare of farmed animals) (Amendment) Regulations 2009 (S.I. No. 32 of 2009), and
- (c) the European Communities (Welfare of farmed animals) (Amendment) Regulations 2009 (S.I. No. 71 of 2009).

(2) A welfare notice within the meaning of the Regulations revoked by paragraph (1) that is in force immediately before the making of these Regulations remains in force and shall be dealt with as if it were a welfare notice.

(3) An appeal under Regulations revoked by paragraph (1) shall be dealt with as if it were an appeal under Regulation 35 of these Regulations.

(4) These Regulations are in addition to and not in substitution for the Protection of animals kept for farming purposes Act 1984 (No. 13 of 1984).

(5) In case of conflict, these Regulations prevail over the Slaughter of Animals Act 1935.



## Schedule 1

Regulation 5(2)

## CONDITIONS UNDER WHICH AN ANIMAL SHOULD BE KEPT

**Staffing.**

1. An animal shall be cared for by a sufficient number of persons possessing the appropriate ability, knowledge and professional competence.

**Inspection.**

2. An animal kept in a husbandry system in which the welfare of the animal depends on frequent human attention shall be inspected at least once a day and an animal in another system shall be inspected at intervals sufficient to detect and allow for action to avoid any suffering.

3. Adequate lighting (fixed or portable) shall be available to enable an animal to be thoroughly inspected at any time.

4. An animal which appears to be ill or injured must be cared for appropriately without delay and, where the animal does not respond to such care, veterinary advice must be obtained as soon as possible. Where necessary, a sick or injured animal shall be isolated in suitable accommodation with, where appropriate, dry comfortable bedding.

**Record keeping.**

5. The owner or keeper of an animal shall maintain a record of any medicinal treatment given and of the number of mortalities found at each inspection. Equivalent information being kept for other purposes shall suffice.

6. These records shall be retained for a period of at least 3 years and shall be made available to an authorised officer when requested by him or her.

**Freedom of movement.**

7. The freedom of movement of an animal, having regard to its species and in accordance with established experience and scientific knowledge, must not be restricted in such a way as to cause it unnecessary suffering or injury. Where an animal is continuously or regularly tethered or confined, it must be given the space appropriate to its physiological and ethological needs in accordance with established experience and scientific knowledge.

**Buildings and accommodation.**

8. Materials to be used for the construction of accommodation, and in particular for the construction of pens and equipment with which an animal may come into contact, must not be harmful to the animal and must be capable of being thoroughly cleaned and disinfected.

9. Accommodation and fittings for securing an animal shall be constructed and maintained so that there are no sharp edges or protrusions likely to cause injury to the animal.

10. Air circulation, dust levels, temperature, relative air humidity and gas concentrations must be kept within limits which are not harmful to an animal.

11. An animal kept in buildings must not be kept either in permanent darkness or without an appropriate period of rest from artificial lighting. Where the natural light available is insufficient to meet the physiological and ethological needs of an animal appropriate artificial lighting must be provided.

#### **Animals not kept in buildings.**

12. An animal not kept in buildings shall where necessary and possible be given protection from adverse weather conditions, predators and risks to its health.

#### **Automatic or mechanical equipment.**

13. All automated or mechanical equipment essential for the health and well-being of an animal must be inspected at least once daily. If defects are discovered these must be rectified immediately or, if this is impossible, appropriate steps must be taken to safeguard the health and well-being of the animal. Where the health and well-being of an animal is dependent on an artificial ventilation system, provision must be made for an appropriate backup system to guarantee sufficient air renewal to preserve the health and well-being of the animal in the event of failure of the system and an alarm system must be provided to give warning of breakdown. The alarm system must be tested regularly.

#### **Feed, water and other substances.**

14. An animal must be fed a wholesome diet which is appropriate to its age and species and which is fed to the animal in sufficient quantity to maintain it in good health and satisfy its nutritional needs. No animal shall be provided with food or liquid in a manner, nor shall such food or liquid contain any substance, which may cause unnecessary suffering or injury.

15. An animal must have access to feed at intervals appropriate to its physiological needs.

16. An animal must have permanent access to a suitable water supply or be able to satisfy its fluid intake needs by other means.

17. Feeding and watering equipment must be designed, constructed and placed so that contamination of food and water and the harmful effects of competition between animals are minimised.

18. No animal remedy may be administered to an animal other than an animal remedy authorised under and administered in accordance with the European Communities (Animal Remedies) (No. 2) Regulations 2007 (S.I. No. 786 of

2007) and the European Communities (Control of Animal Remedies and their Residues) Regulations 2009 (S.I. No. 183 of 2009) and no other substance may be given to an animal unless it has been demonstrated by scientific studies of animal welfare or established experience that the effect of that substance is not detrimental to the health or welfare of the animal.

#### **Breeding procedures.**

19. Natural or artificial breeding or breeding procedures that cause or are likely to cause suffering or injury to an animal must not be practised. This provision does not preclude the use of certain procedures likely to cause minimal or momentary suffering or injury or which might necessitate interventions which would not cause lasting injury.

20. An animal shall not be kept for farming purposes unless it can reasonably be expected, on the basis of its genotype or phenotype, that it can be kept without detrimental effect on its health or welfare.

### **Schedule 2**

*Regulation 7.*

#### **CONDITIONS UNDER WHICH LAYING HENS SHOULD BE KEPT**

1. All laying hens shall be inspected by the owner or person in charge of the premises where they are located at least once each day.

2. The sound level shall be minimised and constant and sudden noises on a premises shall be avoided.

3. Ventilation fans, feeding machinery and other equipment shall be constructed, located, operated and maintained in a manner that causes the least possible noise.

4. Each building used to keep or rear laying hens shall have light levels that are sufficient to allow laying hens to see one another and be seen clearly, to investigate their surroundings visually and show normal levels of activity. Where there is natural light, light apertures shall be placed in a manner that light is distributed evenly within the accommodation.

After the first days of conditioning, lighting shall follow a 24 hour cycle, include an uninterrupted period of darkness of approximately eight hours so that the laying hens may rest and avoid problems such as immuno-depression and ocular anomalies and, otherwise, be such as to prevent health and behavioural problems. An adequate period of twilight, when the light is dimmed and which facilitates the laying hens setting down without disturbance or injury, shall be provided.

5. Without prejudice to paragraph 6, parts of buildings, equipment, machinery or other utensils that may come into contact with laying hens shall be thoroughly cleansed and disinfected at regular intervals.

6. On each occasion when depopulation is carried out, parts of buildings, equipment, machinery or other utensils that may come into contact with laying hens shall be thoroughly cleansed and disinfected prior to the introduction of a new batch of laying hens.

7. While cages are occupied, they shall be kept satisfactorily clean.

8. Droppings must be removed as often as necessary and dead laying hens must be removed when found or, at a minimum, once a day.

9. Each cage shall be constructed in a manner that prevents a laying hen from escaping.

10. Accommodation that comprises two or more tiers of cages must have devices (or other appropriate measures must be taken) to facilitate inspection of each tier and removal of laying hens without difficulty.

11. A cage door must be designed and be of such dimensions that an adult laying hen may be removed without unnecessary suffering or sustaining injury.

12. Mutilation of a laying hen is, without prejudice to point 19 of the Annex of the General Welfare Directive, prohibited.

13. Beak trimming may only be undertaken by trained and competent personnel and the beaks of laying hens over 9 days old shall not be trimmed.

Regulation 13(a)

Schedule 3

### Part 1

CONDITIONS APPLICABLE TO PREMISES WHERE CHICKENS ARE KEPT FOR MEAT PRODUCTION.

#### 1. Drinkers

Drinkers shall be positioned and maintained in such a way that spillage is minimised

#### 2. Feeding

Feed shall be either continuously available or meal fed and must not be withdrawn from chickens more than 12 hours before the expected slaughter time.

#### 3. Litter

All chickens shall have permanent access to litter that is dry and easily crumbled on the surface.

#### 4. Ventilation and heating

Ventilation shall be sufficient to avoid a chicken overheating and shall operate, where necessary, in combination with heating systems to remove excessive moisture.

#### 5. Noise

The sound level shall be minimised. Ventilation fans, feeding machinery or other equipment shall be constructed, placed, operated and maintained in such a way that they cause the least possible amount of noise.

#### 6. Light

All buildings shall have lighting with an intensity of at least 20 lux during the lighting period, measured at birds-eye level and illuminating at least 80% of the usable area. A temporary reduction in lighting may be allowed when necessary following veterinary advice.

Within seven days of chickens being placed in a building until three days before the anticipated time of slaughter, lighting must follow a 24 hour rhythm and include periods of darkness lasting at least 6 hours, with one period of darkness of at least 4 hours, excluding dimming periods.

#### 7. Inspection

All chickens kept for meat production must be inspected at least twice per day. Special attention must be paid to signs indicating a possible reduced level of welfare or health.

Chickens that are seriously injured or show evident signs of health disorder (such as those having difficulty in walking, abnormal accumulation of fluid or severe malformations), and are likely to suffer, shall receive appropriate treatment or be culled immediately.

A registered veterinary practitioner shall be contacted when necessary.

#### 8. Cleaning

Those parts of a building, equipment, machinery or utensils in contact with chickens shall be thoroughly cleaned and disinfected every time final depopulation is carried out and before new birds are introduced into the building.

After final depopulation of a building, all litter must be removed and an adequate amount of clean litter that conforms to paragraph 3 provided.

#### 9. Record keeping

The owner or keeper shall maintain an accurate record in respect of each building in which chickens are kept of—

- (a) the number of chickens introduced,

- (b) the useable area,
- (c) the hybrid or breed of the chickens,
- (d) the number of birds found dead after each inspection, with an indication of the cause of death, if known,
- (e) the number of birds culled after each inspection with the reasons for culling, and
- (f) the number of chickens remaining in the flock following the removal of chickens for sale or slaughter.

The records referred to in this paragraph shall be maintained for at least 3 years and be made available for inspection on request to an authorised officer.

#### **10. Surgical intervention**

All surgical interventions which result in damage to or loss of a sensitive part of the body or alteration of bone structure carried out for other than therapeutic reasons or diagnostic purposes are prohibited.

#### **11. Castration**

Castration of chickens shall only be carried out in accordance with the direction of a registered veterinary practitioner by persons trained in techniques of castration.

#### **12. Beak trimming**

Beak trimming may only be undertaken, after all other measures to prevent feather pecking and cannibalism have failed, by trained and competent personnel and the beaks of chickens over 9 days old shall not be trimmed.

Regulation 13 (b)  
(ii)

#### *Part 2*

#### **REQUIREMENTS FOR HIGHER STOCKING DENSITIES**

1. The owner or keeper shall inform the Minister, at least 15 days prior to the placement of a flock on the premises, of his or her intention to use a stocking density greater than 33 kilogrammes per square metre. The information shall state the exact stocking density proposed.

2. The owner or keeper shall maintain in each house to which a higher stocking density applies documentation describing in detail the production system and, in particular, it shall include technical detail relating to the building and equipment, including-

- (a) an accurate plan of the building including dimensions of areas occupied by chickens,



- (b) ventilation, and, if relevant, cooling and heating system, including their location, a ventilation plan detailing target air quality parameters, such as airflow, air speed and temperature,
- (c) feeding and watering systems and their location,
- (d) alarm systems and backup systems in the event of failure of any automated or mechanical equipment essential for the health and well being of the chickens, and
- (e) floor type and litter normally used.

The information maintained under this paragraph shall be kept updated and made available on request to an authorised officer.

The owner or keeper shall inform the Minister of any changes in a building, equipment or procedures used for the purposes of this Part.

3. The owner or keeper shall ensure that each building on a holding used for the purposes of this Part is equipped with ventilation and, if necessary, heating and cooling systems designed, constructed and operated in such a way that-

- (a) the concentration of ammonia ( $\text{NH}_3$ ) does not exceed 20 parts per million and the concentration of carbon dioxide ( $\text{CO}_2$ ) does not exceed 3,000 parts per million measured at the level of the chickens heads,
- (b) the inside temperature, when the outside temperature measures in the shade exceeds 30 degrees centigrade, does not exceed the outside temperature by more than 3 degrees centigrade, and
- (c) the average relative humidity measured inside the building during 48 hours does not exceed 70% when the outside temperature is below 10 degrees centigrade.

### Part 3

Regulation 13 (b)  
(iii)

#### CRITERIA FOR FURTHER INCREASING STOCKING DENSITY

1. The monitoring of the premises by the Minister over the previous two year period did not show any deficiencies with respect to the requirements of Part 3 of these Regulations.

2. Regular monitoring by the owner or keeper is carried out using codes of practice prepared in accordance with Regulation 3.

3. In at least 7 consecutive, subsequently checked flocks from a house, the cumulative daily mortality rate is less than  $1\% + 0.6\% \times \text{the slaughter age of the flock expressed in days}$ .

4. If no monitoring was carried out in the previous two years, at least one inspection shall be carried out to verify compliance with paragraphs 1 to 3.

5. Despite paragraph 3, the Minister may permit an increase in stocking density if the owner or keeper provides sufficient explanation for the exceptional nature of a higher daily cumulative mortality rate or to show that the cumulative daily mortality rate is caused by factors beyond the owner's or keeper's control.

Regulation 14

*Part 4*

TRAINING

An approved training course shall cover, at least, Community legislation concerning the protection of chickens and, in particular-

- (a) the matters referred to in this Schedule,
- (b) physiology, in particular drinking and feeding needs, animal behaviour and the concept of stress,
- (c) the practical aspects of the careful handling of chickens, catching loading and transporting chickens.
- (d) Emergency care for chickens, emergency killing and culling, and
- (e) Preventive biosecurity measures.

Regulation 16

Schedule 4

*Part 1*

CONDITIONS UNDER WHICH CALVES AND PIGS SHOULD BE KEPT

1. Materials used for the construction of accommodation and in particular boxes, stalls and equipment with which calves or pigs may come into contact shall not be harmful to the calves or pigs. Those parts of the accommodation with which an animal may come into contact shall be capable of being thoroughly cleansed and disinfected and shall be thoroughly cleansed and disinfected, using an approved disinfectant to prevent cross-infection and the build-up of disease-carrying organisms.

2. Electrical circuits and equipment shall be installed in accordance with the terms of the National Rules for Electrical Installations Second Edition 1991 (ET 101/1991) or any amendment, modification or replacement to those Rules.

3. Insulation, heating and ventilation of the building shall ensure that the air circulation, dust level, temperature, relative air humidity and gas concentrations are kept within limits which are not harmful to the calves or pigs.

4. All automated or mechanical equipment essential for the health and well-being of calves or pigs shall be inspected at least once daily. Where defects are discovered, these shall be rectified immediately or as soon as reasonable. In the

meantime, all appropriate steps shall be taken to safeguard the health and well-being of the calves or pigs until the defect has been rectified, notably by using alternative methods of feeding and maintaining a satisfactory environment.

Where an artificial ventilation system is used, provision shall be made for an appropriate back-up system to guarantee sufficient air renewal to preserve the health and well-being of the calves or pigs in the event of the failure of the system, and an alarm system, independent of the mains electricity supply, shall be provided to inform the owner or person in charge of the breakdown or fire.

The alarm system shall be tested at least once a month and maintained in proper working order.

5. Calves and pigs shall not be kept permanently in darkness. To meet their behavioural and physiological needs, the accommodation shall be well lit by natural or artificial light, for at least 8 continuous hours each day. Every source of artificial light shall be mounted so as not to cause discomfort to the calves or pigs.

An adequate source of light shall be available to enable the calves or pigs to be properly inspected at any time.

6. All housed calves reared in groups or in individual pens shall be inspected by the owner or the person in charge at least twice daily. Calves kept outside, and pigs shall be inspected at least once daily.

Any calf or pig that appears to be ill or injured shall be treated appropriately without delay and veterinary advice shall be obtained as soon as possible for any calf or pig that is not responding to the care of the owner or person in charge.

Where necessary, sick or injured calves and pigs shall be isolated in adequate accommodation with dry, comfortable bedding.

A calf or pig shall be able to turn around easily unless such movement is contrary to specific advice from a registered veterinary practitioner.

7. Where tethers are used, they shall not cause injury to the calves and shall be inspected regularly and adjusted as necessary to ensure a comfortable fit.

Each tether shall be designed to avoid the risk of strangulation or injury and to allow the calf to move in accordance with paragraph 1 Part 2.

8. Housing, pens, equipment and utensils for calves and pigs shall be properly cleansed and disinfected to prevent cross-infection and the build-up of disease-carrying organisms. Faeces, urine and uneaten or spilt food shall be removed and bedding changed as often as necessary to minimize smell and avoid attracting flies or rodents.

9. Floors shall be smooth but not slippery so as to prevent injury to the calves or pigs and so designed as not to cause injury or suffering to calves or pigs standing or lying on them. Floors shall be suitable for the size and weight of the

calves or pigs and form a rigid, even and stable surface. The lying area shall be comfortable, clean, and adequately drained and shall not adversely affect the calves or pigs. Appropriate bedding shall be provided for all calves less than 2 weeks old. If bedding is provided for pigs, it shall be clean, dry and not harmful to the pigs.

10. (a) Feeding and watering equipment for calves and pigs shall be designed, constructed, placed and maintained so that contamination of feed and water is minimized.

(b) Equipment and fittings shall be designed and maintained in such a way as to minimize, as far as is practicable, the exposure of the calves or pigs to spills of feed or water, or to faeces and urine.

11. Calves and pigs shall be cared for by a sufficient number of suitably experienced personnel.

## Part 2

### *Specific Provisions for Calves.*

1. Subject to Regulation 5, the accommodation for calves shall be constructed in such way as to allow each calf to lie down, rest, stand up and groom itself without difficulty. Each calf shall have a clean place in which to rest and shall, unless isolated for veterinary reasons, be able to see other calves.

2. Calves shall not be tethered, with the exception of group-housed calves which may be tethered for periods of not more than one hour at the time of feeding milk or milk substitute.

3. All calves shall be provided with an appropriate diet adapted to their age, weight and behavioural and physiological needs, to promote good health and welfare and for this purpose the food for calves shall contain sufficient iron to ensure an average blood haemoglobin level of at least 4.5 mmol/litre and a minimum daily ration of fibrous food shall be provided for each calf over 2 weeks old, the quantity being raised from 50g to 250g per day for calves from 8 to 20 weeks old.

4. All calves shall be fed at least twice a day. Where calves are housed in groups and not fed ad libitum or by an automatic feeding system, each calf shall have access to the food at the same time as the others in the group.

5. All calves over 2 weeks of age shall have access to a sufficient quantity of fresh water or be able to satisfy their fluid intake needs by drinking other liquids. However, in hot weather conditions or for calves that are ill, fresh drinking water shall be available at all times.

6. Each calf shall receive bovine colostrum as soon as possible after it is born and, in any case, within the first 6 hours of life.

*Part 3**Specific Provisions for various Categories of Pigs***Chapter I****ALL PIGS**

1. Subject to Regulation 18, accommodation for pigs shall be constructed in such way as to allow each pig lie down, rest, and stand up without difficulty. Each pig shall have a clean place in which to rest and shall, unless isolated for veterinary reasons, be able to see other pigs.

Each pig shall have access to a clean lying area that is physically and thermally comfortable, adequately drained and that is of sufficient area to allow each pig lie down at the same time.

2. If pigs are kept together, measures shall be taken to prevent fighting that goes beyond normal behaviour and to investigate the causes of fighting. If possible, measures, including provision of plentiful straw or other materials, shall be put in place. Pigs which show persistent aggression towards others or are victims of aggression shall be isolated or kept separate from the group.

3. All pigs shall be provided with an appropriate diet adapted to their age, weight and behavioural and physiological needs to promote good health and welfare.

4. All pigs shall be fed at least once a day. Where pigs are housed in groups and not fed ad libitum or by an automatic feeding system, each pig shall have access to the food at the same time as the others in the group.

5. All pigs over 2 weeks of age shall have permanent access to a sufficient quantity of fresh water.

6. In addition to measures normally taken to prevent tail-biting and other vices and in order to enable them to satisfy their behavioural needs, all pigs, taking into account environmental conditions, management systems and stocking densities, shall be able to obtain straw or any other suitable material or object.

7. Subject to Regulation 18(2), the owner or person in charge shall take all necessary measures to ensure that pigs are not subject to constant or sudden noise.

8. A pig shall have permanent access to a sufficient quantity of suitable material, such as straw, hay, wood, peat or mushroom compost to enable proper investigation and manipulation activities, that does not compromise the health of the pig.

## Chapter II

### BOARS

9. Subject to paragraph 10, boar pens shall be sited and constructed so as to allow the boar to turn around and to hear, smell and see other pigs, and to provide for clean resting areas. The lying area shall be dry and comfortable.

The minimum unobstructed floor area of the pen for an adult boar shall be 6 square metres.

10. If pens are used for natural service, the minimum unobstructed floor area of a pen for an adult boar shall be 10 square metres.

## Chapter III

### SOWS AND GILTS

11. Pregnant sows and gilts shall, if necessary, be treated against external and internal parasites. If they are placed in farrowing crates, pregnant sows and gilts shall be thoroughly cleaned.

12. Sows and gilts shall be provided with a clean, adequately drained, comfortable lying area and shall, in the week before expected farrowing, be given suitable nesting material unless this is not technically feasible due to the slurry system in use on the premises.

13. An unobstructed area behind the sow or gilt shall be available for the ease of natural or assisted farrowing.

14. Farrowing crates where sows are kept loose shall have some adequate means, such as farrowing rails, to protect the piglets.

15. Sows and gilts shall be provided with a diet that satisfies their nutritional needs and contains sufficient quantity of suitable bulky or high fibre food to satisfy their hunger and the need to chew and to ensure that they do not display signs of hunger.

## Chapter IV

### PIGLETS

16. Piglets shall be provided with a source of heat and a solid, dry and comfortable lying area, covered with a mat or littered with suitable material, away from the sow where all of them can rest at the same time.

17. Where a farrowing crate is used, the piglets shall have sufficient space to be able to be suckled without difficulty.

18. Tail docking or tooth clipping shall not be carried out routinely except where injuries to sows' teats or to other pigs' ears or tails have occurred.



Where tooth clipping appears necessary, this shall be carried out within seven days of birth.

19. Subject to paragraph 20, piglets shall not be weaned from the sow at less than 28 days of age unless the welfare or health of the dam or piglets would otherwise be adversely affected.

20. Despite paragraph 19, piglets, if accommodated in specialised housing that has been thoroughly cleaned and disinfected immediately before the introduction of those piglets, may be weaned from the sow at no less than 21 days of age.

21. Housing to which paragraph 20 refers shall be separate, in a manner that adequately prevents the risk or spread of disease, from housing containing sows.

## Chapter V

### WEANERS AND REARING PIGS

22. Pigs shall be placed in groups as soon as possible after weaning. They should be kept in stable groups with as little mixing as possible.

If pigs unfamiliar with one another are to be mixed, they shall be mixed at as early an age as possible and, preferably, within seven days of weaning.

Pigs shall be afforded adequate opportunity to escape and hide from other pigs.

23. An animal remedy shall not be administered, to facilitate mixing of pigs, other than in exceptional circumstances, under and in accordance with the written prescription of a registered veterinary practitioner; that prescription shall be retained by the owner or person in charge of the pigs and a copy shall be retained by the registered veterinary practitioner who prescribes the animal remedy.

## Schedule 5

Regulation 24

### Part 1

#### REQUIREMENTS FOR THE MOVEMENT AND LAIRAGING OF ANIMALS IN SLAUGHTERHOUSES.

##### I. General requirements.

1. A slaughterhouse shall have suitable equipment and facilities available for the purpose of unloading animals from means of transport.

2. Animals shall be unloaded as soon as possible after arrival. If delay is unavoidable they shall be protected from extremes of weather and provided with adequate ventilation.

3. Animals which might injure each other on account of their species, sex, age or origin shall be kept and lairaged apart from each other.

4. Animals shall be protected from adverse weather conditions. If they have been subjected to high temperature in humid weather they shall be cooled by appropriate means.

5. The condition and state of health of the animals shall be inspected at least every morning and evening.

6. Without prejudice to Chapter VI of Annex I to Directive 64/433/EEC, animals which have experienced pain or suffering during transport or upon arrival at the slaughterhouse, and unweaned animals, shall be stunned and slaughtered immediately. If this is not possible, they shall be separated and then stunned and slaughtered as soon as possible and at least within the following two hours. Animals which are unable to walk shall not be dragged to the place of slaughter, but shall be killed where they lie or, where it is possible and does not entail any unnecessary suffering, transported on a trolley or moveable platform to the place of emergency slaughter.

## II. Requirements for animals delivered other than in containers.

1. Equipment for unloading animals shall have non-slip flooring and, if necessary, be provided with lateral protection. Bridges, ramps and gangways shall be fitted with sides, railings or some other means of protection to prevent animals falling off them. Exit or entry ramps shall have the minimum possible incline consistent with the animal being able to retain its footing.

2. During unloading care shall be taken not to frighten, excite or mistreat the animals, and to ensure that they are not overturned. Animals shall not be lifted by the head, horns, ears, feet, tail or fleece in such a way as to cause them unnecessary pain or suffering. When necessary, they shall be led individually.

3. Animals shall be moved with care. Passageways shall be so constructed as to minimise the risk of injury to animals, and so arranged as to exploit their gregarious tendencies. Instruments intended for guiding animals shall be used solely for that purpose, and only for short periods. Instruments which administer electric shocks may be used only for adult bovine animals and pigs which refuse to move, provided that the shocks last no more than two seconds, are adequately spaced out and that the animals have room ahead of them in which to move. Such shocks may be applied only to the muscles of the hindquarters.

4. Animals shall not be struck on, nor shall pressure be applied to, any particularly sensitive part of the body. In particular, animals' tails shall not be crushed, twisted or broken and their eyes shall not be grasped. Blows and kicks shall not be inflicted.

5. Animals shall not be taken to the place of slaughter unless they can be slaughtered immediately. If they are not slaughtered immediately on arrival they shall be lairaged.

6. A slaughterhouse shall be equipped with a sufficient number of pens for adequate lairaging of the animals with protection from the effects of adverse weather.

7. A lairage shall have:

- (a) floors which minimise the risk of slipping and which do not cause injury to animals in contact with them,
- (b) adequate ventilation, taking into account the extremes of temperature and humidity which may be expected. Where mechanical means of ventilation are required, provision shall be made for emergency back-up facilities in the event of breakdown,
- (c) artificial lighting at a level sufficient to permit inspection of all animals at any time; if necessary, adequate back-up lighting shall be available,
- (d) where necessary, equipment for tethering animals,
- (e) where necessary, adequate supplies of a suitable bedding material for all animals kept in the lairage overnight.

8. Where, in addition to the lairages referred to above, slaughterhouses, have field lairages without natural shelter or shade, appropriate protection from adverse weather shall be provided. Field lairages shall be maintained in such condition as to ensure that animals are not subjected to physical, chemical or other health hazards.

9. Animals which are not taken directly upon arrival to the place of slaughter shall have drinking water available to them from appropriate facilities at all times. Animals which have not been slaughtered within 12 hours of their arrival shall be fed, and shall subsequently be given moderate amounts of food at appropriate intervals.

10. Animals which are kept for 24 hours or more at a slaughterhouse shall be lairaged and, where appropriate, tethered, in such a way that they can lie down and feed without difficulty. Where animals are not tethered, food shall be provided in a way which will permit the animals to feed undisturbed.

### III. Requirements for animals delivered in containers.

1. Containers in which animals are transported shall be handled with care, and shall not be thrown, dropped or knocked over. Where possible, they shall be loaded and unloaded horizontally and mechanically.

2. Animals delivered in containers with perforated or flexible bottoms shall be unloaded with particular care in order to avoid injury. Where appropriate, animals shall be unloaded from the containers individually.

3. Animals which have been transported in containers shall be slaughtered as soon as possible; otherwise they shall if necessary be watered and fed in accordance with paragraph 9 of Section II.

*Part 2.*

RESTRAINT OF ANIMALS BEFORE STUNNING, SLAUGHTER OR KILLING.

1. Animals shall be restrained in an appropriate manner in such a way as to spare them any avoidable pain, suffering, agitation, injury or contusions.

However, in the case of ritual slaughter, restraint of bovine animals before slaughter using a mechanical method intended to avoid any pain, suffering or agitation and any injuries or contusions to the animals is obligatory.

2. Animals' legs shall not be tied, and animals shall not be suspended before stunning or killing. However, poultry and rabbits may be suspended for slaughter provided that appropriate measures are taken to ensure that, on the point of being stunned, they are in a sufficiently relaxed state for stunning to be carried out effectively and without undue delay.

Furthermore, holding an animal in a restraint system may in no circumstances be regarded as suspension.

3. Animals which are stunned or killed by mechanical or electrical means applied to the head shall be presented in such a position that the equipment can be applied and operated easily, accurately and for the appropriate time. The Minister may, however, in the case of solipeds and cattle, authorise the use of appropriate means to restrain head movements.

4. Electrical stunning equipment shall not be used as a means of restraint or immobilisation or to make animals move.

*Part 3.*

STUNNING OR KILLING OF ANIMALS OTHER THAN ANIMALS REARED FOR FUR.

I. Permitted Methods.

A. Stunning.

1. Captive bolt pistol.
2. Concussion.
3. Electronarcosis.
4. Exposure to carbon dioxide.

B. Killing.

1. Free bullet pistol or rifle.

2. Electrocution.
3. Exposure to carbon dioxide.

C. The Minister may, however, authorise decapitation, dislocation of the neck and the use of a vacuum chamber as a method of killing for certain specific species, provided that Regulation 23 is complied with and that specific requirements laid down in Section III of this Part are met.

## II. Specific Requirements for Stunning.

Stunning shall not be carried out unless it is possible to bleed the animals immediately afterwards.

### 1. Captive bolt pistol.

- (a) Instruments shall be positioned so as to ensure that the projectile enters the cerebral cortex. In particular, it is prohibited to shoot cattle in the poll position.

Sheep and goats may be shot in the poll position if the presence of horns prevents use of the crown position. In such cases the shot shall be placed immediately behind the base of the horns and aimed towards the mouth, and bleeding shall commence within 15 seconds of shooting.

- (b) When using a captive bolt instrument, the operator shall check to ensure that the bolt retracts to its full extent after each shot. If it does not so retract, the instrument shall not be used again until it has been repaired.
- (c) Animals shall not be placed in stunning pens unless the operator who is to stun them is ready to do so as soon as the animal is placed in the pen. Animals shall not be placed in a head restraint until the slaughterman is ready to stun them.

### 2. Concussion.

- (a) This is only permitted using a mechanically-operated instrument which administers a blow to the skull. The operator shall ensure that the instrument is applied in the proper position and that the correct strength of cartridge is used, in accordance with the manufacturer's instructions, to produce an effective stun without fracture of the skull.
- (b) However, in the case of small batches of rabbits, where a non-mechanical blow to the skull is used, that operation shall be carried out in such a way that the animal is immediately rendered unconscious and remains so until its death and in compliance with Regulation 23.

## 3. Electronarcosis.

## A. Electrodes.

1. Electrodes shall be so placed that they span the brain, enabling the current to pass through it. Appropriate measures shall also be taken to ensure that there is good electrical contact, in particular by removing excess wool or wetting skin.

## 2. Where animals are stunned individually, the apparatus shall:

- (a) incorporate a device which measures the impedance of the load and prevents operation of the apparatus if the minimum required current cannot be passed;
- (b) incorporate an audible or visible device indicating the length of time of its application to an animal;
- (c) be connected to a device indicating the voltage and the current under load, and be positioned so as to be clearly visible to the operator.

## B. Waterbath stunners

1. Where waterbath stunners are used to stun poultry, the level of the water shall be adjustable in order to ensure that there is good contact with the bird's head.

The strength and duration of the current used in this case will be determined by an authorised officer so as to ensure that the animal is immediately rendered unconscious and remains so until death.

2. Where poultry are stunned in groups in a waterbath, a voltage sufficient to produce a current strong enough to ensure that every bird is stunned shall be maintained.

3. Appropriate measures shall be taken to ensure that the current passes properly, in particular, by the use of good electrical contacts and by wetting the shackle-to-leg contact.

4. Waterbaths for poultry shall be adequate in size and depth for the type of bird being slaughtered, and shall not overflow at the entrance. The electrode which is immersed in the water shall extend the length of the waterbath.

5. If necessary, manual back-up shall be available.

## C. Exposure to carbon dioxide.

1. The concentration of carbon dioxide for stunning pigs shall be at least 70% by volume.

2. The chamber in which pigs are exposed to the gas, and the equipment used for conveying the pigs through it, shall be so designed, constructed and maintained as to avoid injury to the pigs and compression of the chest and enable



them to remain upright until they lose consciousness. Adequate lighting shall be provided in the conveying mechanism and the chamber to allow pigs to see other pigs or their surroundings.

3. The chamber shall be fitted with devices for measuring the gas concentration at the point of maximum exposure and for giving a clearly visible and audible warning if the concentration of carbon dioxide falls below the required level.

4. Pigs shall be placed in pens or containers in which they can see each other and conveyed into the gas chamber within 30 seconds from their entry into the installation. They shall be conveyed as rapidly as possible from the entrance to the point of maximum concentration of the gas and shall be exposed to it for long enough to ensure that they remain unconscious until they have been killed.

5. The Minister may, on application, and subject to such conditions as he or she may specify, authorise the stunning of poultry by exposure to carbon dioxide or a mixture of other gases or refuse an application.

### III. Specific Requirements for Killing.

#### 1. Free bullet pistol or rifle.

These methods, which may be used to kill various species, in particular large farmed game and deer, are subject to authorisation by the Minister, who shall be satisfied, in particular, that these methods are used by duly qualified staff and are in compliance with Regulation 23.

#### 2. Decapitation and dislocation of the neck.

These methods, which are to be used only for killing poultry, are subject to authorisation by the Minister, who shall be satisfied, in particular, that these methods are used by duly qualified staff and are in compliance with Regulation 23.

#### 3. Electrocution and carbon dioxide.

The Minister may authorise the killing of various species by these methods provided that, in addition to Regulation 23, the specific provisions laid down in paragraphs 3 and 4 of Section II are complied with. The Minister may, to ensure the effectiveness of these methods, lay down the strength and duration of the current used and the concentration and length of exposure to carbon dioxide.

#### 4. Vacuum chamber.

This method, which is to be used only for the killing without bleeding of certain animals for consumption belonging to farmed game species (quail, partridge and pheasant), is subject to authorisation by the Minister. To obtain authorisation the owner or person in charge of the animals shall ensure, in addition to compliance with Regulation 23, that:

- (a) the animals are placed in an airtight chamber in which a vacuum is swiftly achieved by means of a powerful electric pump,
- (b) the vacuum is maintained until the animals are dead,
- (c) the animals are held in groups in transport containers which can be placed in the vacuum chamber, which is designed for that purpose.

*Part 4.*

BLEEDING OF ANIMALS.

1. For animals which have been stunned, bleeding shall be started as soon as possible after stunning and be carried out in such a way as to bring about rapid, profuse and complete bleeding. In any event, the bleeding shall be carried out before the animal regains consciousness.

2. All animals which have been stunned shall be bled by incising at least one of the carotid arteries or the vessels from which they arise.

After incision of the blood vessels, no further dressing procedures nor any electrical stimulation may be performed on the animals before the bleeding has ended.

3. Where one person is responsible for the stunning, shackling, hoisting and bleeding of animals, that person shall carry out those operations consecutively on one animal before carrying them out on another animal.

4. Manual back-up shall be available where poultry is bled by means of automatic neck-cutters so that in the event of a breakdown, birds may be slaughtered immediately.

*Part 5*

KILLING METHODS FOR DISEASE CONTROL.

Permitted Methods.

- 1. Any method permitted under Part 3 that causes certain death.
- 2. Injection of an overdose of a drug with anaesthetic properties if the carcase is to be disposed of in accordance with the Animal By-products Regulation within the meaning of the European Communities (Transmissible Spongiform Encephalopathies and Animal By-Products) Regulations 2008 (S.I. No. 252 of 2008).
- 3. In addition, the Minister may, in compliance with Regulation 23, permit the use of other methods for killing conscious animals, ensuring in particular that:
  - (a) if methods are used which do not cause immediate death (for example, captive bolt shooting), appropriate measures are taken to kill the animals as soon as possible, and in any event before they regain consciousness,

- (b) nothing more is done to the animals before it has been ascertained that they are dead.

4. Permitted methods of killing for disease control set out in this Schedule shall be carried out by or under the supervision of an authorised officer.

#### *Part 6*

#### METHODS OF KILLING FUR ANIMALS.

##### I. Permitted methods.

1. Mechanically-operated instruments which penetrate the brain.
2. Injection of an overdose of a drug with anaesthetic properties.
3. Electrocution with cardiac arrest.
4. Exposure to carbon monoxide.
5. Exposure to chloroform.
6. Exposure to carbon dioxide.

The Minister shall decide on the most appropriate method of killing for the different species concerned in compliance with Regulation 23.

##### II. Specific requirements.

1. Mechanically-operated instruments which penetrate the brain.
  - (a) Instruments shall be positioned so as to ensure that the projectile enters the cerebral cortex.
  - (b) This method is permitted only if it is followed by immediate bleeding.
2. Injection of an overdose of a drug with anaesthetic properties.

Only those anaesthetics, doses and applications which cause immediate loss of consciousness followed by death may be used.

3. Electrocution with cardiac arrest.

Electrodes shall be placed so that they span the brain and the heart and the minimum current level used shall lead to immediate loss of consciousness and cardiac arrest. However, for foxes, where electrodes are applied to the mouth and rectum, a current of an average value of 0.3 amps shall be applied for at least 3 seconds.

4. Exposure to carbon monoxide.

- (a) The chamber in which the animals are exposed to the gas shall be designed, constructed and maintained in such a way as to avoid injury to the animals and allow them to be supervised.
- (b) The animals shall be introduced into the chamber only after it has been filled with a concentration of carbon monoxide of at least 1% by volume, supplied by a source of 100% carbon monoxide.
- (c) The gas produced by an engine specially adapted for that purpose may be used to kill mustelids and chinchillas provided that tests have shown that the gas used:
  - (i) has been suitably cooled,
  - (ii) has been sufficiently filtered, and
  - (iii) is free from any irritant matter or gas.

The animals cannot be placed in the chamber until the concentration of carbon monoxide has reached at least 1% by volume.

- (d) When inhaled the gas shall first induce deep general anaesthesia and shall then cause certain death.
- (e) The animals shall remain in the chamber until they are dead.

#### 5. Exposure to chloroform.

Exposure to chloroform may be used to kill chinchillas provided that:

- (a) the chamber in which the animals are exposed to the gas is designed, constructed and maintained in such a way as to avoid injury to the animals and allow them to be supervised;
- (b) the animals are introduced into the chamber only if it contains a saturated chloroform-air compound;
- (c) when inhaled, the gas first induces deep general anaesthesia and then causes certain death;
- (d) the animals remain in the chamber until they are dead.

#### 6. Exposure to carbon dioxide.

Carbon dioxide may be used to kill mustelids and chinchillas provided that-

- (a) the chamber in which the animals are exposed to the gas is designed, constructed and maintained in such a way as to avoid injury to the animals and allow them to be supervised,

- (b) the animals are introduced into the chamber only when the atmosphere contains the highest possible concentration of carbon dioxide supplied by a source of 100% carbon dioxide,
- (c) when inhaled, the gas first induces deep general anaesthesia and then causes certain death, and
- (d) the animals remain in the chamber until they are dead.

### Part 7

#### KILLING OF SURPLUS CHICKS AND EMBRYOS IN HATCHERY WASTE.

##### I. Permitted methods for the killing of chicks.

1. Use of a mechanical apparatus causing rapid death.
2. Exposure to carbon dioxide.
3. However, the Minister may permit the use of other scientifically recognised killing methods provided that they comply with Regulation 5.

##### II. Specific requirements.

1. Use of a mechanical apparatus producing rapid death.
  - (a) The animals shall be killed by an apparatus which contains rapidly rotating mechanically operated killing blades or expanded polystyrene projections.
  - (b) The capacity of the apparatus shall be sufficient to ensure that all animals are killed immediately, even if they are handled in large numbers.
2. Exposure to carbon dioxide.
  - (a) The animals shall be placed in an atmosphere with the highest obtainable concentration of carbon dioxide, supplied by a source of 100% carbon dioxide.
  - (b) The animals shall remain in this atmosphere until they are dead.

##### III. Permitted method of the killing of embryos.

1. To kill any living embryos instantaneously, all hatchery waste shall be treated by the mechanical apparatus mentioned in paragraph 1 of Section II.
2. However, the Minister may permit the use of other scientifically recognised killing methods provided that they comply with Regulation 23.

MONITORING AND FOLLOW-UP AT SLAUGHTER REGARDING CHICKENS REARED FOR  
MEAT PRODUCTION**1. Mortality**

1.1 In the case of stocking densities higher than 33 kilogrammes per square metre, the documentation accompanying the flock shall include the daily mortality rate and cumulative daily mortality rate calculated by the owner or keeper and the hybrid or breed of the chickens.

1.2 Under the supervision of the veterinary inspector at the establishment where chickens are to be slaughtered, the data referred to at 1.1 and the number of broilers dead on arrival at the establishment shall be recorded, indicating the premises and house of origin. The veterinary inspector shall check the plausibility of data furnished under 1.1 taking into account the number of broilers slaughtered and the number dead on arrival.

**2. Post mortem inspection**

In the context of checks carried out under Regulation (EC) No. 854/ 2004 of the European Parliament and of the Council of 29 April 2004, the veterinary inspector at the establishment where chickens are to be slaughtered shall evaluate the results of the post mortem inspection to identify possible indications of poor welfare conditions such as abnormal levels of contact dermatitis, parasitism and systemic illness at the premises or a particular house at the premises of origin.

**3. Communication of results**

If the mortality rate referred to in paragraph 1 or the results of post mortem inspection referred to at paragraph 2 are consistent with poor animal welfare conditions, the veterinary inspector at the establishment where chickens are to be slaughtered shall communicate the data to the owner or keeper of the animals who shall take appropriate remedial action and make an official report.



GIVEN under my Official Seal,  
24 June 2010.

BRENDAN SMITH,  
Minister for Agriculture, Fisheries and Food.



EXPLANATORY NOTE.

*(This note is not part of the Instrument and does not purport to be a legal interpretation.)*

These Regulations give effect to a series of European Directives concerning the protection of animals including broilers, laying hens, calves and pigs and animals being slaughtered.

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## ***Appendix No. 17***

### ***Copy of Nitrates Directive – S.I. 31 of 2014***

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STATUTORY INSTRUMENTS.

**S.I. No. 31 of 2014**

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EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR  
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EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR  
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S.I. No. 31 of 2014

## EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2014

I, PHIL HOGAN, Minister for the Environment, Community and Local Government, in exercise of the powers conferred on me by section 3 of the European Communities Act 1972 (No. 27 of 1972) and for the purpose of giving further effect to Directive 91/676/EEC of 12 December 1991<sup>1</sup>, Directive 2000/60/EC of 23 October 2000<sup>2</sup>, Directive 2003/35/EC of 26 May 2003<sup>3</sup>, Directive 2006/11/EC of 15 February 2006<sup>4</sup>, Directive 2006/118/EC of 12 December 2006<sup>5</sup> and Directive 2008/98/EC of 19 November 2008<sup>6</sup> hereby make the following regulations:

### PART 1

#### PRELIMINARY

##### *Citation, commencement and application*

1. (a) These Regulations may be cited as the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014.
- (b) These Regulations shall apply to all holdings in the State.
- (c) These Regulations shall apply to all movements of livestock manure in the State.

##### *Purpose of Regulations*

2. The purpose of these Regulations is to give effect to Ireland's Nitrates Action Programme for the protection of waters against pollution caused by agricultural sources. The set of measures in these regulations provide a basic level of protection against possible adverse impacts to waters arising from the proposed agricultural expansion under Food Harvest 2020.

##### *Revocations*

3. The European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2010 are hereby revoked.

##### *Interpretation*

4. (1) In these Regulations, save where the context otherwise requires—

<sup>1</sup>O.J. No. L 375/1, 31 December 1991.

<sup>2</sup>O.J. No. L 327/1, 22 December 2000.

<sup>3</sup>O.J. No. L 156/17, 25 June 2003.

<sup>4</sup>O.J. No. L 64/52, 4 March 2006.

<sup>5</sup>O.J. No. L 372/19, 27 December 2006.

<sup>6</sup>O.J. No. L 312/3, 22 November 2008.

*Notice of the making of this Statutory Instrument was published in "Iris Oifigiúil" of 31st January, 2014.*

“Act of 1992” means the Environmental Protection Agency Act, 1992 (No. 7 of 1992);

“Agency” means the Environmental Protection Agency established under section 19 of the Act of 1992;

“agriculture” includes the breeding, keeping and sale of livestock (including cattle, horses, pigs, poultry, sheep and any creature kept for the production of food, wool, skins or fur), the making and storage of silage, the cultivation of land, and the growing of crops (including forestry and horticultural crops);

“application to land”, in relation to fertiliser, means the addition of fertiliser to land whether by spreading on the surface of the land, injection into the land, placing below the surface of the land or mixing with the surface layers of the land but does not include the direct deposition of manure to land by animals;

“aquifer” means a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater;

“biochemical oxygen demand” for the purposes of sub-article (2) (b) (i) means a 5 day biochemical oxygen demand test done in accordance with method ISO 5815-1:2003, International Organisation for Standardization, or any update of that method;

“chemical fertiliser” means any fertiliser that is manufactured by an industrial process;

“dry matter” for the purposes of sub-article (2)(b)(ii) means a test for total solids done in accordance with method 2540B, Standard Methods for the Examination of Water and Wastewater, American Public Health Association, 21st Edition, 2005, or any update of that method;

“eligible area” in relation to a holding and the grassland stocking rate, means the eligible area of the holding or the grassland as appropriate excluding areas under farm roads, paths, buildings, farmyards, woods, dense scrub, rivers, streams, ponds, lakes, sandpits, quarries, expanses of bare rock, areas of bogland not grazed, areas fenced off and not used for production, inaccessible areas and areas of forestry (including Christmas trees), or required to be totally destocked under a Commonage Framework Plan;

“farmyard manure” means a mixture of bedding material and animal excreta in solid form arising from the housing of cattle, sheep and other livestock excluding poultry;

“fertiliser” means any substance containing nitrogen or phosphorus or a nitrogen compound or phosphorus compound utilised on land to enhance growth of vegetation and may include livestock manure, the residues from fish farms and sewage sludge;

“groundwater” means all water that is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;

“holding” means an agricultural production unit and, in relation to an occupier, means all the agricultural production units managed by that occupier;

“livestock” means all animals kept for use or profit (including cattle, horses, pigs, poultry, sheep and any creature kept for the production of food, wool, skins or fur);

“livestock manure” means waste products excreted by livestock or a mixture of litter and waste products excreted by livestock, even in processed form;

“local authority” means a city council or county council within the meaning of the Local Government Act, 2001 (No. 37 of 2001);

“the Minister” means the Minister for the Environment, Community and Local Government;

“the Nitrates Directive” means Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources;

“occupier”, in relation to a holding, includes the owner, a lessee, any person entitled to occupy the holding or any other person having for the time being control of the holding;

“organic fertiliser” means any fertiliser other than that manufactured by an industrial process and includes livestock manure, dungstead manure, farmyard manure, slurry, soiled water, silage effluent, spent mushroom compost, non-farm organic substances such as sewage sludge, industrial by-products and sludges and residues from fish farms;

“ploughing” includes ploughing and primary cultivation, excluding light cultivation carried out to encourage natural regeneration;

“relevant local authority” means the local authority in whose administrative area a farm holding or part of a farm holding is situated;

“river basin district” means a river basin district established by the European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003) or any amendment thereof in relation to the establishment of river basin districts;

“slurry” includes—

- (a) excreta produced by livestock while in a building or yard, and
- (b) a mixture of such excreta with rainwater, washings or other extraneous material or any combination of these, of a consistency that allows it to be pumped or discharged by gravity at any stage in the handling process but does not include soiled water;

“soil test” means a soil sample taken in accordance with the soil sampling procedure set out in Schedule 1 and analysed in accordance with that Schedule, at a laboratory that meets the requirements of the International organisation for standardisation (ISO);

“soiled water” has the meaning assigned by sub-article (2);

“steep slope” means ground which has an average incline of 20% or more in the case of grassland or 15% or more in the case of other land;

“tidal waters” includes the sea and any estuary up to high water mark medium tide and any enclosed dock adjoining tidal waters;

“waters” includes—

- (a) any (or any part of any) river, stream, lake, canal, reservoir, aquifer, pond, watercourse, or other inland waters, whether natural or artificial,
- (b) any tidal waters, and
- (c) where the context permits, any beach, river bank and salt marsh or other area which is contiguous to anything mentioned in paragraph (a) or (b), and the channel or bed of anything mentioned in paragraph (a) which is for the time being dry, but does not include a sewer;

“waterlogged ground” means ground that is saturated with water such that any further addition will lead, or is likely to lead, to surface run-off;

and cognate words shall be construed accordingly.

- (2) (a) In these Regulations “soiled water” includes, subject to this sub-article, water from concreted areas, hard standing areas, holding areas for livestock and other farmyard areas where such water is contaminated by contact with any of the following substances—
  - (i) livestock faeces or urine or silage effluent,
  - (ii) chemical fertilisers,
  - (iii) washings such as vegetable washings, milking parlour washings or washings from mushroom houses,
  - (iv) water used in washing farm equipment.
- (b) In these Regulations, “soiled water” does not include any liquid where such liquid has either—
  - (i) a biochemical oxygen demand exceeding 2,500 mg per litre, or
  - (ii) a dry matter content exceeding 1% (10 g/L).

- (c) For the purposes of these Regulations, soiled water which is stored together with slurry is deemed to be slurry.

(3) In these Regulations a reference to:—

- (a) an Article, Part or Schedule which is not otherwise identified is a reference to an Article, Part or Schedule of these Regulations,
- (b) a sub-article or paragraph which is not otherwise identified is a reference to a sub-article or paragraph of the provision in which the reference occurs, and
- (c) a period between a specified day in a month and a specified day in another month means the period commencing on the first-mentioned day in any year and ending on the second-mentioned day which first occurs after the first-mentioned day.

(4) In these Regulations a footnote to a table in Schedule 2 shall be deemed to form part of the table.

## PART 2

### FARMYARD MANAGEMENT

#### *Minimisation of soiled water*

5. (1) An occupier of a holding shall take all such reasonable steps as are necessary for the purposes of minimising the amount of soiled water produced on the holding.

(2) Without prejudice to the generality of sub-article (1), an occupier of a holding shall ensure, as far as is practicable, that—

- (a) clean water from roofs and unsoiled paved areas and that flowing from higher ground on to the farmyard is diverted away from soiled yard areas and prevented from entering storage facilities for livestock manure and other organic fertilisers, soiled water, and effluents from dungsteads, farmyard manure pits or silage pits and
- (b) rainwater gutters and downpipes where required for the purposes of paragraph (a) are maintained in good working condition.

#### *Collection and holding of certain substances*

6. (1) Livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits or silage pits arising or produced in a building or yard on a holding shall, prior to its application to land or other treatment, be collected and held in a manner that prevents the run-off or seepage, directly or indirectly, into groundwaters or surface waters of such substances.

(2) The occupier of a holding shall not cause or permit the entry to waters of any of the substances specified in sub-article (1).



*Provision and management of storage facilities*

7. (1) Storage facilities for livestock manure and other organic fertilisers, soiled water and effluents from dungsteeds, farmyard manure pits or silage pits shall be maintained free of structural defect and be maintained and managed in such manner as is necessary to prevent run-off or seepage, directly or indirectly, into groundwater or surface water, of such substances.

(2) Storage facilities being provided on a holding on or after 31 March 2009 shall—

- (a) be designed, sited, constructed, maintained and managed so as to prevent run-off or seepage, directly or indirectly, into groundwater or surface water of a substance specified in sub-article (1), and
- (b) comply with such construction specifications for those facilities as may be approved from time to time by the Minister for Agriculture, Food and the Marine.

(3) Storage facilities other than those referred to in sub-article (2) shall be of such construction and design and shall be maintained and managed in such a manner so as to comply with the requirements of sub-article (1) and article 6(2).

(4) In this article “storage facilities” includes out-wintering pads, earthen-lined stores, integrated constructed wetlands and any other system used for the holding or treatment of livestock manure or other organic fertilisers.

*General obligations as to capacity of storage facilities*

8. (1) The capacity of storage facilities for livestock manure and other organic fertilisers, soiled water and effluents from dungsteeds, farmyard manure pits or silage pits on a holding shall be adequate to provide for the storage of all such substances as are likely to require storage on the holding for such period as may be necessary as to ensure compliance with these Regulations and the avoidance of water pollution.

(2) For the purposes of sub-article (1) an occupier shall have due regard to the storage capacity likely to be required during periods of adverse weather conditions when, due to extended periods of wet weather, frozen ground or otherwise, the application to land of livestock manure or soiled water is precluded.

(3) For the purposes of Articles 8 to 14, the capacity of storage facilities on a holding shall be disregarded insofar as the occupier does not have exclusive use of those facilities.

(4) For the purposes of Articles 10 to 14 the capacity of facilities required in accordance with these Regulations for the storage of manure from livestock of the type specified in Tables 1, 2 or 3 of Schedule 2 shall be determined by reference to the criteria set out in the relevant table and the rainfall criteria set out in Table 4 of that schedule and shall include capacity for the storage for

such period as may be necessary for compliance with these Regulations of rain-water, soiled water or other extraneous water which enters or is likely to enter the facilities.

*Capacity of storage facilities for effluents and soiled water*

9. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of—

- (a) effluent produced by ensiled forage and other crops shall equal or exceed the capacity specified in Table 5 of Schedule 2,
- (b) soiled water shall equal or exceed the capacity required to store all soiled water likely to arise on the holding during a period of 10 days, and
- (c) soiled water being provided on a holding on or after 1 January 2015 shall equal or exceed the capacity required to store all soiled water likely to arise on the holding during a period of 15 days.

*Capacity of storage facilities for pig manure*

10. (1) Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by pigs shall, subject to sub-article (2) and Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of 26 weeks.

(2) The period specified in Schedule 3 shall, in substitution for that prescribed by sub-article (1), apply in relation to livestock manure produced by pigs on a holding where all the following conditions are met—

- (a) the number of pigs on the holding does not at any time exceed one hundred pigs, and
- (b) the holding comprises a sufficient area of land for the application in accordance with these Regulations of all livestock manure produced on the holding.

*Capacity of storage facilities for poultry manure*

11. (1) Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by poultry shall, subject to sub-article (2) and Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of 26 weeks.

(2) The period specified in Schedule 3 shall, in substitution for that prescribed by sub-article (1), apply in relation to livestock manure produced by poultry on a holding where all the following conditions are met—

- (a) tillage or grassland farming is carried out on the holding,

- (b) the number of poultry places on the holding does not exceed 2,000 places, and
- (c) the holding comprises a sufficient area of land for the application in accordance with these Regulations of all livestock manure produced on the holding.

*Capacity of storage facilities for manure from deer, goats and sheep*

12. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by deer, goats and sheep shall, subject to Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of six weeks.

*Capacity of storage facilities for manure from cattle*

13. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by cattle shall, subject to Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during the period specified in Schedule 3.

*Reduced storage capacity in certain circumstances*

14. (1) The capacity of facilities for the storage of livestock manure on a holding may, to such extent as is justified in the particular circumstances of the holding, be less than the capacity specified in Article 10, 11, 12 or 13, as appropriate, in the case of a holding where—

- (a) the occupier of the holding has a contract providing exclusive access to adequate alternative storage capacity located outside the holding,
- (b) the occupier has a contract for access to a treatment facility for livestock manure, or
- (c) the occupier has a contract for the transfer of the manure to a person registered under and in accordance with the European Communities (Transmissible Spongiform Encephalopathies and Animal By-products) Regulations 2008 S.I. 252 of 2008 to undertake the transport of manure.

(2) Subject to sub-article (3), the capacity of facilities for the storage of livestock manure may be less than the capacity specified in Article 12 or 13, as appropriate, in relation to—

- (a) deer, goats or sheep which are out-wintered at a grassland stocking rate which does not exceed 130 kg nitrogen at any time during the period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure, or
- (b) livestock (other than dairy cows, deer, goats or sheep) which are out-wintered at a grassland stocking rate which does not exceed 85 kg nitrogen at any time during the period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure.

(3) Sub-article (2) shall apply only in relation to a holding where all the following conditions are met—

- (a) all the lands used for out-wintering of the livestock are comprised in the holding,
- (b) the out-wintered livestock have free access at all times to the required lands,
- (c) the amount of manure produced on the holding does not exceed an amount containing 140kg of nitrogen per hectare per annum,
- (d) severe damage to the surface of the land by poaching does not occur, and
- (e) the reduction in storage capacity is proportionate to the extent of out-wintered livestock on the holding.

(4) In this Article, a grassland stocking rate of 130 kg or 85 kg of nitrogen, as the case may be, means the stocking of grassland on a holding at any time by such numbers and types of livestock as would in the course of a year excrete waste products containing 130 kg or 85 kg of nitrogen, as the case may be, per hectare of the grassland when calculated in accordance with the nutrient excretion rates for livestock specified in Table 6 of Schedule 2.

### PART 3

#### NUTRIENT MANAGEMENT

##### *Interpretation, commencement etc*

15. (1) In this Part, “crop requirement”, in relation to the application of fertilisers to promote the growth of a crop, means the amounts and types of fertilisers which are reasonable to apply to soil for the purposes of promoting the growth of the crop having regard to the foreseeable nutrient supply available to the crop from the fertilisers, the soil and from other sources.

(2) The amount of nitrogen or phosphorus specified in Table 7 or 8 of Schedule 2, as the case may be, in relation to a type of livestock manure or other substance specified in the relevant table shall for the purposes of this Part be deemed to be the amount of nitrogen or phosphorus, as the case may be, contained in that type of manure or substance except as may be otherwise specified in a certificate issued in accordance with Article 32.

(3) The amount of nitrogen or phosphorus available to a crop from a fertiliser of a type which is specified in Table 9 of Schedule 2 in the year of application of that fertiliser shall, for the purposes of this Part, be deemed to be the percentage specified in that table of the amount of nitrogen or phosphorus, as the case may be, in the fertiliser.

(4) The amount of nitrogen or phosphorus available to a crop from an organic fertiliser of a type which is not specified in Table 9 of Schedule 2 shall be deemed

to be the amount specified in the table in relation to cattle manure or, where supported by the necessary analysis, the amount of nitrogen estimated on the basis of the C:N ratio of the compost in accordance with Table 9A unless a different amount has been determined in relation to that fertiliser by, or with the agreement of, the relevant local authority or the Agency, as the case may be.

(5) A reference in this Part to the “nitrogen index” or the “phosphorus index” in relation to soil is a reference to the index number assigned to the soil in accordance with Table 10 or 11 of Schedule 2, as the case may be, to indicate the level of nitrogen or phosphorus available from the soil.

*Duty of occupier in relation to nutrient management*

16. (1) An occupier of a holding shall take all such reasonable steps as are necessary for the purposes of preventing or minimising the application to land of fertilisers in excess of crop requirement on the holding.

(2) (a) For the purposes of this Article the phosphorus index for soil shall be deemed to be phosphorus index 3 unless a soil test indicates that a different phosphorus index is appropriate in relation to that soil.

(b) The soil test to be taken into account for the purposes of paragraph (a) in relation to soil shall, subject to paragraph (c), be the soil test most recently taken in relation to that soil.

(c) Where a period of five years or more has elapsed after the taking of a soil test in relation to soil the results of that test shall be disregarded for the purposes of paragraph (a) except in a case where that soil test indicates the soil to be at phosphorus index 4.

(3) Without prejudice to the generality of sub-article (1) and subject to sub-article (4), the amount of available nitrogen or available phosphorus applied to promote the growth of a crop specified in Table 12, 13, 14, 15, 16, 17, 18, 19, 20 or 21 of Schedule 2 shall not exceed the amount specified in the table in relation to that crop having regard to the relevant nitrogen index or phosphorus index, as the case may be, for the soil on which the crops are to be grown. In the case of crops not identified in the tables listed above fertilisers shall be applied in accordance with the national agriculture and food development authority's guidance as approved by the Minister for Agriculture, Food and the Marine.

(4) In the case of a holding on which grazing livestock are held, the amount of available phosphorus supplied to the holding by concentrated feedstuff, shall be the amount fed to such livestock in excess of 300kg per 85kg livestock manure nitrogen in the previous calendar year and the phosphorus content of such concentrated feedstuff shall in the absence of a known phosphorus content or phosphorus content provided by the supplier be deemed to be 0.5 kg phosphorus in respect of each 100 kg of such concentrated feedstuff.

(5) (a) In the case of a holding on which grazing livestock are held, the amount of available nitrogen and available phosphorus supplied to the holding by manure from such livestock shall (save insofar as such manure is exported from the holding) be deemed to be the relevant

proportion of the amount of available nitrogen and available phosphorus contained in the total manure produced by such livestock.

- (b) In paragraph (a), the “relevant proportion” means the proportion of a year as is represented by the storage period specified in Schedule 3 in relation to the holding.

#### PART 4

### PREVENTION OF WATER POLLUTION FROM FERTILISERS AND CERTAIN ACTIVITIES

#### *Distances from a water body and other issues*

17. (1) Chemical fertiliser shall not be applied to land within 2m of any surface waters.

(2) Organic fertiliser or soiled water shall not be applied to land within—

- (a) 200m of the abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 100m<sup>3</sup> or more of water per day or serving 500 or more persons,
- (b) 100m of the abstraction point (other than an abstraction point specified in paragraph (a)) of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10m<sup>3</sup> or more of water per day or serving 50 or more persons,
- (c) 25m of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (a) or (b),
- (d) 20m of a lake shoreline,
- (e) 15m of exposed cavernous or karstified limestone features (such as swallow-holes and collapse features),
- (f) subject to sub-article (13), 5m of any surface waters (other than a lake or surface waters specified at paragraph (a) or (b)), or
- (g) the distance specified in sub-article 2(f) shall be increased to 10m for a period of two weeks preceding and two weeks following the periods specified in Schedule 4.

(3) Notwithstanding the requirements of sub-articles (2)(a), (2)(b) and (2)(c), the following distances shall apply—

- (a) 30m from the abstraction point in the case of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10m<sup>3</sup> or more of water per day or serving 50 or more persons,



- (b) 15m from the abstraction point in the case of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (a).

(4) Sub-article (3) shall only apply in situations where a local authority has completed a technical assessment of conditions in the vicinity of the abstraction point, including taking into account variation in soil and subsoil conditions, the landspreading pressures in the area, the type of abstraction, available water quality evidence and the likely risk to the water supply source and the local authority has determined that the distance does not give rise to a risk to the water supply and a potential danger to human health.

(5) A local authority may decide to apply the landspreading restriction to the upstream catchment area and to the close proximity downstream of the abstraction point in the case of any surface waters.

(6) A local authority may, in the case of any particular abstraction point and following consultation with the Agency, specify a greater distance to that specified in sub-articles (2) or (3) where, following prior investigations, the authority is satisfied that such distance is appropriate for the protection of waters being abstracted at that point. The distance so specified shall be determined by the local authority using an evidence-based approach which takes into account the natural vulnerability of the waters to contamination from land spreading, the potential risk to human health arising from the landspreading activity as well as the water quality evidence, including information on water quality trends.

(7) Notwithstanding the provisions of sub-articles (2), (3) and (6) a local authority shall as soon as may be practicable, following prior investigations and following consultation with the Agency, specify an alternative distance, including a landspreading exclusion area where necessary, in the case of a water abstraction for human consumption in a scheme supplying 10m<sup>3</sup> or more of water per day, or serving 50 or more persons, where—

- (a) on the basis of the results of monitoring carried out for the purposes of Article 7 of the European Communities (Drinking Water) (No. 2) Regulations 2007 (S.I. No. 278 of 2007), the quality of water intended for human consumption does not meet the parametric values specified in Part I of the Schedule of those Regulations or the quality of water constitutes a potential danger to human health, and it appears to the local authority that this is due to the landspreading of organic fertilisers or soiled water in the vicinity of the abstraction point, or
- (b) investigations undertaken by Irish Water as part of the management of a water supply scheme indicate that the landspreading activity presents a significant risk to the drinking water supply or a potential danger to human health having regard to catchment factors in the vicinity of the abstraction point including but not limited to slope, vulnerability, and hydrogeology, the scale and intensity of land spreading pressures, the type of water supply source and water quality evidence, including information on water quality trends.

(8) A distance specified by a local authority in accordance with sub-articles (3), (5), (6) and (7) may be described as a distance or distances from an abstraction point, a hydrogeological boundary or topographical feature or as an area delineated on a map or in such other way as appears appropriate to the authority.

(9) In relation to sub-articles (6) and (7), "prior investigations" means, in relation to an abstraction point, an assessment of the susceptibility of waters to contamination in the vicinity of the abstraction point having regard to—

- (a) the direction of flow of surface water or groundwater, as the case may be,
- (b) the slope of the land and its runoff potential,
- (c) the natural geological and hydrogeological attributes of the area including the nature and depth of any overlying soil and subsoil and its effectiveness in preventing or reducing the entry of harmful substances to water, and
- (d) where relevant, the technical specifications set out in the document "Groundwater Protection Schemes" published in 1999 (ISBN 1-899702-22-9) or any subsequent published amendment of that document.

(10) Where a local authority specifies a distance in accordance with either of sub-articles (3), (5), (6) or (7) the authority shall, as soon as may be—

- (a) notify the affected landowners, Irish Water, the Agency and the Department of Agriculture, Food and the Marine of the distance so specified,
- (b) send to the Agency a summary of the report of any investigations undertaken and the reasons for specifying the alternative distance,
- (c) make an entry in the register maintained in accordance with Article 30(6), and
- (d) publish and maintain on the local authority website an updated schedule of setback distances specified for each drinking water supply.

(11) The requirements under sub-article (10) shall apply in the case of each public water supply and supplies for which the local authority has supervisory authority.

(12) The Agency may issue advice and/or direction to a local authority in relation to any requirements including requirements for technical assessments and prior investigations arising under sub-articles (2), (3), (4), (5), (6), (7), (8) or (9) and a local authority shall comply with any such advice or direction given.

(13) Notwithstanding sub-article (2)(f), organic fertiliser or soiled water shall not be applied to land within 10m of any surface waters where the land has an average incline greater than 10% towards the water.

(14) Where farmyard manure is held in a field prior to landspreading it shall be held in a compact heap and shall not be placed within-

- (a) 250m of the abstraction point of any surface waters or borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10m<sup>3</sup> or more of water per day or serving 50 or more persons,
- (b) 50m of any other borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified at paragraph (a),
- (c) 20m of a lake shoreline,
- (d) 50m of exposed cavernous or karstified limestone features (such as swallow-holes and collapse features),
- (e) 20m of any surface waters (other than a lake or surface waters specified at paragraph (a)).

(15) Farmyard manure shall not be held in a field at any time during the periods specified in Schedule 4 as applicable to that substance.

(16) Silage bales shall not be stored outside of farmyards within 20m of waters or a drinking water abstraction point in the absence of adequate facilities for the collection and storage of any effluent arising.

(17) No cultivation shall take place within 2m of a watercourse identified on the OSI 1:10560 map except in the case of grassland establishment or the sowing of grass crops.

(18) Supplementary feeding points shall not be located within 20m of waters and shall not be located on bare rock.

*Requirements as to manner of application of fertilisers, soiled water etc*

18. (1) Livestock manure, other organic fertilisers, effluents, soiled water and chemical fertilisers shall be applied to land in as accurate and uniform a manner as is practically possible.

(2) Organic and chemical fertilisers or soiled water shall not be applied to land in any of the following circumstances—

- (a) the land is waterlogged;
- (b) the land is flooded or likely to flood;
- (c) the land is snow-covered or frozen;

- (d) heavy rain is forecast within 48 hours, or
- (e) the ground slopes steeply and there is a risk of water pollution having regard to factors such as surface runoff pathways, the presence of land drains, the absence of hedgerows to mitigate surface flow, soil condition and ground cover.

(3) A person shall, for the purposes of sub-article (2)(d), have regard to weather forecasts issued by Met Éireann.

(4) Organic fertilisers or soiled water shall not be applied to land—

- (a) by use of an umbilical system with an upward-facing splashplate,
- (b) by use of a tanker with an upward-facing splashplate,
- (c) by use of a sludge irrigator mounted on a tanker, or
- (d) from a road or passageway adjacent to the land irrespective of whether or not the road or passageway is within or outside the curtilage of the holding.

(5) Subject to sub-article (6), soiled water shall not be applied to land—

- (a) in quantities which exceed in any period of 42 days a total quantity of 50,000 litres per hectare, or
- (b) by irrigation at a rate exceeding 5 mm per hour.

(6) In an area which is identified on maps compiled by the Geological Survey of Ireland as “Extreme Vulnerability Areas on Karst Limestone Aquifers”, soiled water shall not be applied to land—

- (a) in quantities which exceed in any period of 42 days a total quantity of 25,000 litres per hectare, or
- (b) by irrigation at a rate exceeding 3 mm per hour unless the land has a consistent minimum thickness of 1m of soil and subsoil combined.

(7) For the purposes of sub-article (6), it shall be assumed until the contrary is shown that areas so identified as “Extreme Vulnerability Areas on Karst Limestone Aquifers” do not have a consistent minimum thickness of 1m of soil and subsoil combined.

#### *Periods when application of fertilisers is prohibited*

19. (1) Subject to this Article, the application of fertiliser to land is prohibited during the periods specified in Schedule 4.

(2) Sub-article (1) shall not apply in relation to the application to land of—

- (a) soiled water, or

- (b) chemical fertilisers to meet the crop requirements of Autumn-planted cabbage or of crops grown under permanent cover, or
- (c) fertilisers whose application rate or usage rate is less than 1kg per hectare of available nitrogen or phosphorus.

*Limits on the amount of livestock manure to be applied*

20. (1) The amount of livestock manure applied in any year to land on a holding, together with that deposited to land by livestock, shall not exceed an amount containing 170 kg of nitrogen per hectare.

(2) For the purposes of sub-article (1), the amount of nitrogen produced by livestock and the nitrogen content of livestock manure shall be calculated in accordance with Tables 6, 7 and 8 of Schedule 2 except in the case of pig manure or poultry manure where a different amount is specified in a certificate issued in accordance with Article 32 in relation to that manure.

(3) For the purposes of sub-article (1), the area of a holding shall be deemed to be the eligible area of the holding.

*Ploughing and the use of non-selective herbicides*

21. (1) Where arable land is ploughed between 1 July and 30 November the necessary measures shall be taken to provide for emergence, within 6 weeks of ploughing, of green cover from a sown crop. A rough surface shall be maintained prior to a crop being sown in the case of lands ploughed between 1 December and 15 January.

(2) Where grassland is ploughed between 1 July and 15 October the necessary measures shall be taken to provide for emergence by 1 November of green cover from a sown crop.

(3) Grassland shall not be ploughed between 16 October and 30 November.

(4) (a) When a non-selective herbicide is applied to arable land or to grassland in the period between 1 July and 30 November the necessary measures shall be taken to provide for the emergence within 6 weeks of the application, of green cover from a sown crop or from natural regeneration.

(b) The requirement in sub-article 4 (a) shall be reduced to 75% of the relevant cereal area where a contract is in place for seed crops or crops producing grain destined for human consumption which prohibits the application of a non-selective herbicide preharvest.

(5) Where green cover is provided for in compliance with this Article, the cover shall not be removed by ploughing or by the use of a non-selective herbicide before 1 December unless a crop is sown within two weeks of its removal.

(6) In the case of land which is ploughed in the course of a ploughing competition under the auspices of the National Ploughing Association, a temporary

exemption applies in the form of an extension to the time period specified in sub-article (1) or (2) for establishment of green cover after the land is ploughed.

## PART 5

### GENERAL

#### *General duty of occupier*

22. (1) An occupier of a holding shall ensure compliance with the provisions of these Regulations in relation to that holding.

(2) An occupier of a holding shall comply with any advice or guidelines which may be issued from time to time for the purposes of these Regulations by the Minister, the Minister for Agriculture, Food and the Marine or the Agency.

#### *Keeping of records by occupier*

23. (1) Records shall be maintained for each holding which shall indicate—

- (a) total area of the holding,
- (b) eligible area of the holding,
- (c) cropping regimes and their individual areas,
- (d) livestock numbers and type,
- (e) an estimation of the annual fertiliser requirement for the holding and a copy of any Nutrient Management Plan prepared in relation to the holding,
- (f) quantities and types of chemical fertilisers moved on to or off the holding, including opening stock, records of purchase and closing stock,
- (g) livestock manure and other organic fertilisers moved on to or off the holding including quantities, type, dates and details of exporters and importers, as the case may be, in a format specified by the Minister for Agriculture Food and the Marine,
- (h) the results of any soil tests carried out in relation to the holding,
- (i) the nature and capacity of facilities on the holding for the storage of livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits or silage pits including an assessment of compliance with Articles 9 to 14,
- (j) the quantities and types of concentrated feedstuff fed to grazing livestock on the holding, and
- (k) the location of any abstraction point of water used for human consumption from any surface waters, borehole, spring or well.



(2) Where fertiliser is used on a holding and a certificate of the type mentioned in Article 15 or 20 was issued in relation to that fertiliser in accordance with Article 32, a copy of the certificate shall be retained and be available for inspection on the holding for a period of not less than five years from the expiry of validity of the certificate.

(3) Records shall be prepared for each calendar year by 31 March of the following year and shall be retained for a period of not less than five years.

(4) Notwithstanding sub-paragraphs (1), (2) and (3), an occupier shall, where requested by the Minister, the Minister for Agriculture, Food and the Marine, a local authority or the Agency, provide such information as is requested relating to the movement of organic fertilisers on or off the holding.

*False or misleading information*

24. A person shall not compile information which is false or misleading to a material extent or furnish any such information in any notice or other document for the purposes of these Regulations.

*Authorised person*

25. (1) In this article, “authorised person” means—

- (a) a person who is an authorised person for the purposes of section 28 of the Local Government (Water Pollution) Act, 1977 (No. 1 of 1977), or
- (b) a person appointed under sub-article (11) to be an authorised person for the purposes of these Regulations.

(2) An authorised person may for any purpose connected with these Regulations—

- (a) enter and inspect any premises for the purposes of performing a function under these Regulations or of obtaining any information which he or she may require for such purposes,
- (b) at all reasonable times, or at any time if he or she has reasonable grounds for believing that there is or may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, arising from the carrying on of an activity at a premises, enter any premises and bring onto those premises such other persons (including a member of the Garda Síochána) or equipment as he or she may consider necessary, or
- (c) at any time if he or she has reasonable grounds for suspecting there may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, involving the use of any vehicle halt and board the vehicle and require the driver of the vehicle to take it to a place designated by the authorised person, and such a vehicle may be detained at that place by the authorised person for such period as he or she may consider necessary.

(3) An authorised person shall not enter into a private dwelling under this Article unless one of the following conditions applies—

- (a) the entry is effected with the consent of the occupier or
- (b) the entry is authorised by a warrant issued under sub-article (7).

(4) Whenever an authorised person enters any premises or boards any vehicle, under this article, he or she may—

- (a) take photographs and carry out inspections, record information on data loggers, make tape, electrical, video or other recordings,
- (b) carry out tests and make copies of documents (including records kept in electronic form) found therein and take samples,
- (c) monitor any effluent, including trade effluent or other matter, which is contained in or discharged from a premises,
- (d) carry out surveys, take levels, make excavations and carry out examinations of depth and nature of subsoil,
- (e) require that the premises or vehicle or any part of the premises or anything in the premises or vehicle shall be left undisturbed for a specified period,
- (f) require information from an occupier of the premises of any occupant of the vehicle or any person employed on the premises or any other person on the premises,
- (g) require the production of, or inspect, records (including records held in electronic form) or documents, or take copies of or extracts from any records or documents, and
- (h) remove and retain documents and records (including documents held in electronic form) for such period as may be reasonable for further examination,

which the authorised person, having regard to all the circumstances, considers necessary for the purposes of exercising any function under these Regulations.

- (5) (a) An authorised person who, having entered any premises or boarded any vehicle pursuant to these Regulations, considers that a risk, to the environment arises from the carrying on of an activity at the premises or involving the use of the vehicle, may direct the owner or occupier of the premises or the driver of the vehicle to take such measures as are considered by that authorised person to be necessary to remove that risk.

- (b) If the owner, occupier or driver referred to in paragraph (a) fails to comply with a direction of an authorised person under this subsection, the authorised person may do all things as are necessary to ensure that the measures required under the direction are carried out and the costs incurred by him or her in doing any such thing shall be recoverable from the owner or occupier by him or her, or the person by whom he or she was appointed.

(6) A person shall not—

- (a) refuse to allow an authorised person to enter any premises or board any vehicle or to bring any person or equipment with him or her in the exercise of his or her powers,
- (b) obstruct or impede an authorised person in the exercise of any of his or her powers,
- (c) give to an authorised person information which is to his or her knowledge false or misleading in a material respect, or
- (d) fail or refuse to comply with any direction or requirement of an authorised person.

- (7) (a) Where an authorised person in the exercise of his or her powers under this article is prevented from entering any premises, or if the authorised person has reason to believe that evidence related to a suspected offence under these Regulations may be present in any premises and that the evidence may be removed therefrom or destroyed, or if the authorised person has reason to believe that there is a significant immediate risk to the environment, the authorised person or the person by whom he or she was appointed may apply to the District Court for a warrant under this article authorising the entry by the authorised person onto or into the premises.

- (b) If, on application being made to the District Court under this article, the District Court is satisfied, on the sworn information of the authorised person that he or she has been prevented from entering a premises, the Court may issue a warrant authorising that person, accompanied, if the Court deems it appropriate by another authorised person or a member of the Garda Síochána, as may be specified in the warrant, at any time or times within one month from the date of the issue of the warrant, on production if so requested of the warrant, to enter, if need be by force, the premises concerned and exercise the powers referred to in sub-article (4) or (5).

- (8) An authorised person may, in the exercise of any power conferred on him or her by these Regulations involving the bringing of any vehicle to any place, or where he or she anticipates any obstruction in the exercise of any other power conferred on him or her by these Regulations, request a member of the Garda Síochána to assist him or her in the exercise of such a power and any member

of the Garda Síochána to whom he or she makes such a request shall comply with this request.

(9) Any certificate or other evidence given, or to be given, in respect of any test, examination or analysis of any sample shall, in relation to that sample, be evidence, without further proof, of the result of the test, examination or analysis unless the contrary is shown.

(10) When exercising any power conferred on him or her by these Regulations an authorised person shall, if requested by any person affected, produce a certificate or other evidence of his or her appointment as an authorised person.

(11) A person may be appointed as an authorised person for the purposes of these Regulations by the Minister, the Minister for Agriculture, Food and the Marine or the Agency.

(12) In this article “premises” includes land whether or not there are any structures on the land.

#### *Offences and related matters*

26. (1) A person who contravenes a provision of Parts 2 to 5 of these Regulations is guilty of an offence and shall be liable—

- (a) on summary conviction to a Class A fine or to imprisonment for a term not exceeding 3 months or both or
- (b) on conviction on indictment to a fine not exceeding €500,000 or to imprisonment for a term not exceeding one year or to both such fine and such imprisonment.

(2) Where an offence under these Regulations has been committed by a body corporate and it is proved to have been so committed with the consent or connivance of or to be attributable to any neglect on the part of any person who, when the offence was committed, was a director, manager, secretary or other officer of the body corporate, or a person purporting to act in any such capacity, that person, as well as the body corporate, is guilty of an offence and liable to be proceeded against and punished as if guilty of the first-mentioned offence.

(3) Where the affairs of a body corporate or unincorporated body are managed by its members, sub-article (2) shall apply to the acts and defaults of a member in connection with the functions of management as if such a member were a director or manager of the body.

(4) A prosecution for a summary offence under these Regulations may be taken by a local authority or the Agency.

(5) A prosecution for a summary offence may be taken by a local authority whether or not the offence is committed in the functional area of the authority.

(6) Where a court imposes a fine or affirms or varies a fine imposed by another court for an offence under these Regulations, prosecuted by the Agency

or a local authority, it shall, on the application of the Agency or local authority concerned (made before the time of such imposition, affirmation or variation), provide by order for the payment of the amount of the fine to the Agency or local authority, as the case may be, and such payment may be enforced by the Agency or local authority, as the case may be, as if it were due to it on foot of a decree or order made by the court in civil proceedings.

(7) Where a person is convicted of an offence under these Regulations the court shall, unless it is satisfied that there are special and substantial reasons for not so doing, order that person to pay to the Agency or local authority concerned the costs and expenses, measured by the court, reasonably incurred by the Agency or local authority in relation to the investigation, detection and prosecution of the offence, including costs incurred in the taking of samples, the carrying out of tests, examinations and analyses and in respect of the remuneration and other expenses of employees, consultants and advisers.

(8) (a) Where a local authority has reason to believe that an offence has been or is being committed in relation to a holding the authority may by notice require the person who appears to the authority to be the occupier to provide such information as is specified in the notice in relation to the alleged offence and it shall be the duty of that person to provide such information within the time frame specified in the notice insofar as is known to him or her.

(b) A notice issued in accordance with paragraph (a) shall set out the provisions of Articles 22(1) and 24 and of sub-article (1).

(9) Where a local authority considers that an offence under these Regulations has been or is being committed in relation to a holding the authority shall take such enforcement measures as are warranted by the circumstances and as are necessary to ensure satisfactory compliance with these Regulations and which, save in the case of a trivial or insignificant offence or specific mitigating circumstances, shall include prosecution for the alleged offence.

(10) (a) Where on application by motion by the Agency or a local authority to the District Court, Circuit Court or the High Court, the court hearing the application is satisfied that a person has failed or is failing to comply with a provision of Parts 2 to 5 of these Regulations, the court may by order—

- (i) direct the person to comply with the provisions,
- (ii) make such other provision, including provision in relation to the payment of costs, as the court considers appropriate, and
- (iii) make such interim or interlocutory order as it considers appropriate.

(b) An application for an order under this Article may be made whether or not there has been a prosecution for an offence under these Regulations in relation to the relevant failure of compliance and shall not

prejudice the initiation of a prosecution for an offence under these Regulations in relation to the failure of compliance.

(11) The powers, duties and functions assigned to a local authority or the Agency by this Article are additional to, and not in substitution for, the powers, duties and functions assigned by the Local Government (Water Pollution) Acts 1977 and 1990 or any other statute.

(12) A local authority shall maintain a register of inspections undertaken of farm holdings and information received for the purposes of Article 26(8) and shall keep updated a record of all enforcement measures undertaken in accordance with the requirements of Article 26(9).

## PART 6

### FUNCTIONS OF PUBLIC AUTHORITIES

#### *Minister for Agriculture, Food and the Marine*

27. (1) The Minister for Agriculture, Food and the Marine shall carry out, or cause to be carried out, such monitoring and evaluation programmes in relation to farm practices as may be necessary to determine the effectiveness of measures being taken in accordance with these Regulations.

(2) The Minister for Agriculture, Food and the Marine shall, in relation to each year, make the overall results of monitoring and evaluations carried out in accordance with sub-article (1) available to the Agency, to the Minister and, on request, to a local authority.

(3) The Minister for Agriculture, Food and the Marine shall prepare and keep updated a register of all holdings and shall, on request, make a copy of the register available to the Agency or a local authority.

(4) The Minister for Agriculture, Food and the Marine shall make available to a local authority and/or the Agency a report of an inspection or inspections carried out for the purposes of these Regulations and/or upon written request other information in relation to any holding or holdings as the case may be where such transfer of data is necessary for the purposes of ensuring compliance with these Regulations.

(5) The Minister for Agriculture, Food and the Marine shall cause to be carried out an assessment of the capacity of livestock manure storage facilities, in the context of potential agricultural expansion in accordance with Food Harvest 2020.

#### *Making and review of action programme by the Minister*

28. (1) The Minister shall, following consultation with the Minister for Agriculture, Food and the Marine and other interested parties in accordance with this Article, prepare and publish not later than 31 December 2017 and every four years thereafter, a programme of measures (hereafter in this Article referred to as "an action programme") for the protection of waters against pollution from agriculture.



(2) An action programme required by sub-article (1) shall include all such measures as are necessary for the purposes of Article 5 of the Nitrates Directive and shall contain a review of the action programme most recently made for those purposes and of such additional measures and reinforced actions as may have been taken.

(3) The Minister shall ensure that all interested parties are given early and effective opportunities to participate in the preparation, review and revision of an action programme required by this Article and for this purpose shall—

- (a) inform interested parties by public notices or other appropriate means including electronic media, in relation to any proposals for the preparation, review or revision of an action programme,
- (b) make available to interested parties information in relation to the proposals referred to in paragraph (a) including information about the right to participate in decision-making in relation to those proposals,
- (c) provide an opportunity for comment by interested parties before any decision is made on the establishment, review or revision of an action programme,
- (d) in making any such decision, take due account of the comments made by interested parties and the results of the public participation, and
- (e) having examined any comments made by interested parties, make reasonable efforts to inform those parties of the decisions taken and the reasons and considerations on which those decisions are based, including information on the public participation process.

(4) The Minister shall ensure that such reasonable time is allowed as is sufficient to enable interested parties to participate effectively.

(5) Where the Minister publishes any information in accordance with this Article, the Minister shall—

- (a) do so in such manner as the Minister considers appropriate for the purpose of bringing that information to the attention of the public, and
- (b) make copies of that information accessible to interested parties free of charge through a website or otherwise.

(6) The Minister shall specify by way of public notice on a website or otherwise the detailed arrangements made to enable public participation in the preparation, review or revision of an action programme, including—

- (a) the address to which comments in relation to those proposals may be submitted, and
- (b) the date by which such comments should be received.

(7) In this Article “interested parties” includes persons who—

- (a) are carrying on any business which relies upon the water environment or which is affected, or likely to be affected, by the action programme, or
- (b) are carrying on any activities which have or are likely to have an impact on water status, or
- (c) have an interest in the protection of the water environment whether as users of the water environment or otherwise.

*Agency*

29. (1) The Agency shall prepare at four-yearly intervals a report in accordance with Article 10 of the Nitrates Directive and shall submit such report to the Minister.

(2) The Agency shall undertake a review of progress made in implementing these Regulations and shall submit a report to the Minister by 30 June 2017 and every four years thereafter with the results of that review and with recommendations as to such additional measures, if any, as appear to be necessary to prevent and reduce water pollution from agricultural sources.

(3) In preparing the reports required under sub-articles (1) and (2) the Agency shall consult with the Department of Agriculture, Food and the Marine and the co-ordinating local authority in each river basin district, and such other persons as it considers appropriate.

(4) The Department of Agriculture, Food and the Marine and the relevant local authorities shall provide the Agency with such information appropriate to their functions as may be requested by the Agency for the purposes of these Regulations.

(5) Each monitoring programme prepared by the Agency for the purposes of Article 10 of European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003) shall include provision for such monitoring as is necessary for the purposes of these Regulations.

(6) The Agency shall, from time-to-time as it considers appropriate, make recommendations and give directions to a local authority in relation to the monitoring and inspections to be carried out, or other measures to be taken, by the authority for the purposes of these Regulations and may revise such recommendations and directions at such times thereafter as the Agency considers appropriate.

(7) The powers, duties and functions assigned to the Agency by these Regulations are additional to, and not in substitution for, the powers, duties and functions assigned to the Agency by section 63 of the Environmental Protection Agency Act, 1992 (No. 7 of 1992) or any other statute.

*Local authorities*

30. (1) A local authority shall carry out, or cause to be carried out, such monitoring of surface waters and groundwaters at selected measuring points within its functional area as makes it possible to establish the extent of pollution in the waters from agricultural sources and to determine trends in the occurrence and extent of such pollution.

(2) A local authority shall carry out or cause to be carried out such inspections of farm holdings as is necessary for the purposes of these Regulations and shall aim to co-ordinate its inspection activities with inspections carried out by other public authorities.

(3) For the purposes of sub-article (2) a local authority shall aim to develop co-ordination arrangements with other public authorities with a view to promoting consistency of approach in inspection procedures and administrative efficiencies between public authorities and to avoid any unnecessary duplication of administrative procedures and shall have regard to any inspection protocol which may be developed by the Minister, following consultation with the Minister for Agriculture, Food and the Marine.

(4) A local authority shall, in the exercise of its functions for the purposes of these Regulations—

- (a) consult to such extent as it considers appropriate with the Minister, the Minister for Agriculture, Food and the Marine, the Agency, the co-ordinating local authority in the relevant river basin district and such other persons as it considers appropriate, and
- (b) have regard to any recommendations made, and comply with any direction given, to the authority by the Agency in accordance with Article 29.

(5) A local authority shall furnish to the Department of Agriculture, Food and the Marine and such other persons as it considers appropriate a report of an inspection or inspections carried out for the purposes of these Regulations where non-compliance has been detected.

(6) A local authority shall maintain a register of prior investigations carried out, and distances specified, for the purposes of Article 17.

*Compliance with Data Protection Acts*

31. The provision of information by a local authority, the Agency or the Minister for Agriculture, Food and the Marine in accordance with Article 27, 29 or 30 of these Regulations shall not be a breach of the Data Protection Acts, 1988 and 2003.

*Certificate in relation to nutrient content of fertiliser*

32. (1) A certificate of the type specified in Article 15 or 20 may be issued by a competent authority where the authority is satisfied that the nutrient content of the fertiliser in question has been assessed on the basis of appropriate methodologies based on net farm balance and is as specified in the certificate.

(2) A certificate issued under this Article shall be valid for such period, not exceeding twelve months, as shall be specified in the certificate.

(3) In this Article “competent authority” means—

- (a) the Agency in relation to fertiliser arising in an activity in relation to which there is in force a licence under Part IV of the Act of 1992, and
- (b) the Minister for Agriculture, Food and the Marine in relation to any other fertiliser.

(4) Notice of the methodologies used for the purposes of sub-article (1) shall be notified to the European Commission by the competent authority.

*Exemption for exceptional circumstances for research*

33. (1) A temporary exemption from a requirement of these Regulations may be granted to a person by the Agency or the Minister for Agriculture, Food and the Marine in the case of exceptional circumstances relating to research.

(2) A temporary exemption for the purposes of sub-article (1) shall be granted by way of certificate issued to a person by the Agency or the Minister for Agriculture, Food and the Marine and shall be subject to such conditions, if any, as are specified in the certificate.

(3) A certificate issued for the purposes of this Article shall specify the nature, extent and duration of the exemption to which the certificate relates and a copy of the certificate shall be sent as soon as may be to the relevant local authority.

*Transitional provisions*

34. Notwithstanding Articles 16 and 26 and sub-article (2), the application to land of phosphorus in excess of the quantities prescribed by Article 16 shall not be an offence for the purposes of Article 16 in a case where—

- (a) the excess arises from the application of spent mushroom compost or manure produced by pigs or poultry, and
- (b) the excess amount does not exceed the amounts specified in Schedule 2, Table 22 of these Regulations from the prescribed dates, and
- (c) such compost or manure, as the case may be, is produced on a holding on which activities were being carried out which gave rise to spent mushroom compost or manure from pigs or poultry and there has not been an increase in the scale of such activities on the holding since 1 August 2006, and
- (d) suppliers of spent mushroom compost or manure produced by pigs and poultry retain records of the movement of such fertilisers off the holding in accordance with the requirements of Article 23, and

32 [31]

- (e) the occupier of the holding on which the phosphorus is applied to land holds records which demonstrate compliance with paragraphs (a), (b), (c) and (d).

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## SCHEDULE 1

**SOIL TEST**

A soil test refers to the results of an analysis of a soil sample carried out by a soil-testing laboratory that meets the requirements of the Minister for Agriculture, Food and the Marine for this purpose.

The analysis for phosphorus and, where appropriate, organic matter content and soil pH, and the taking of soil samples shall be carried out in accordance with the procedures below.

**Analysis for Phosphorus**

The Morgan's extractable P test as detailed below shall be used to determine the Soil P Index.

**Preparation of soil sample**

The soil shall be dried at 40°C for at least 24 hours (longer if necessary to ensure complete drying) in a forced draught oven with moisture extraction facilities. It shall then be sieved through a 2 mm mesh screen to remove stones and plant debris. After thorough mixing, it shall be sub-divided to obtain a representative sample. Where large samples are received at the laboratory, the entire sample shall be dried and sieved prior to sub-sampling for analysis.

**Morgan's extracting solution**

Constituents:— 1,400 ml of 40% NaOH in approximately 15 litres of water. Add 1,440 ml of glacial acetic acid. Make up to 20 litres with water and adjust pH to 4.8. The pH of the solution must be checked regularly and adjusted as necessary before use. A volume ratio of one part sieved soil to five parts of solution must be used, e.g. 6 ml of the prepared soil sample is extracted with a 30 ml volume of Morgan's extracting solution. The sample shall be shaken for 30 minutes to get a suitable mix and permit intended reaction, after which it is filtered through a No. 2 Whatman filter paper into vials for analysis. The filtered extract shall be analysed using standard laboratory techniques.

Results shall be reported in mg per litre.

**Analysis of organic matter**

Organic matter content shall be determined by loss on ignition.

Place a quantity of the prepared soil sample in an oven for 16 hours at 105°C. Remove and cool in a desiccator. Put approximately 4g of this soil into a pre-weighed crucible and determine the weight of the soil (initial weight). Place in a muffle furnace at 500°C for 16 hours for ashing. Remove the crucible, cool in a desiccator and determine the weight of the ash (final weight).



The organic matter of the soil is the difference in weight between the initial and final weights expressed as a percentage of the initial weight.

### Analysis of soil pH

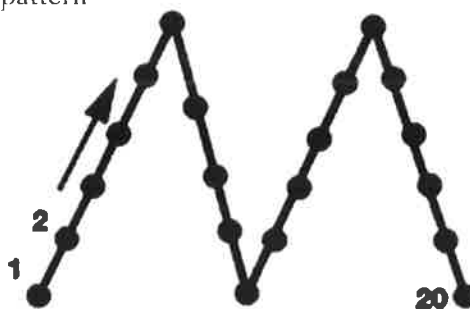
Soil pH shall be determined by measuring pH in a soil:water suspension of 1:2 ratio. Place 10 ml of dried sieved soil and 20 mls of deionised water into a suitable container. Mix thoroughly and allow to stand for at least 10 minutes. Stir for 30 seconds, and allow to settle immediately before recording the pH on a meter calibrated using buffer solutions of pH 4.0 and 7.0

### Soil Sampling Procedure

The soil sample shall be taken in accordance with the procedure as specified below:

- (a) The sampling area shall not exceed 4 hectares. Exceptionally, where soil types and cropping of lands were similar during the previous five years, a sample area of up to 8 hectares shall be deemed acceptable.
- (b) Separate samples shall be taken from areas that are different in soil type, previous cropping history, slope, drainage or persistent poor yields.
- (c) Any unusual spots such as old fences, ditches, drinking troughs, dung or urine patches or where fertiliser or lime has been heaped or spilled shall be avoided.
- (d) A field shall not be sampled for phosphorus until 3 months after the last application of any fertiliser containing this nutrient (chemical or organic).
- (e) The sampling pattern shown in the figure below shall be followed. A soil core shall be taken to the full 100 mm depth. 20 cores shall be taken from the sampling area and placed in the soil container to make up the sample. Ensure the container is full of soil.
- (f) The field and sample numbers shall be written/attached onto the soil container.

Figure 1: Sampling pattern



## Article 8

## SCHEDULE 2

CRITERIA AS TO STORAGE CAPACITY AND NUTRIENT  
MANAGEMENT

Table 1 Slurry storage capacity required for sows and pigs

Unit type	m <sup>3</sup> /week <sup>1</sup>				
Water:meal ratio changing for finishers only	2.0:1	2.5:1	3.0:1	3.5:1	4.0:1
Breeding unit (per sow place)	—	—	—	—	0.174
Integrated unit (per sow place)	0.312	0.355	0.398	0.441	0.483
Finishing unit (per pig)	0.024	0.031	0.039	0.046	0.053

<sup>1</sup>An additional 200mm freeboard must be provided in all covered tanks and 300mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 2 Slurry storage capacity required for cattle, sheep and poultry

Livestock type	m <sup>3</sup> /week <sup>1</sup>
Dairy cow	0.33
Suckler cow	0.29
Cattle > 2 years	0.26
Cattle (18-24 months old)	0.26
Cattle (12-18 months old)	0.15
Cattle (6-12 months old)	0.15
Cattle (0-6 months old)	0.08
Lowland ewe	0.03
Mountain ewe	0.02
Lamb-finishing	0.01
Poultry — layers per 1000 birds (30% DM)	0.81

<sup>1</sup>An additional 200mm freeboard must be provided in all covered tanks and 300mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 3 Storage capacity required for dungstead manure

Livestock type	Solid fraction (m <sup>3</sup> /week)	Scepage fraction (m <sup>3</sup> /week) <sup>1</sup>
Dairy cow	0.28	0.04
Suckler cow	0.25	0.03
Cattle > 2 years	0.23	0.02
Cattle (18-24 months old)	0.23	0.02
Cattle (12-18 months old)	0.13	0.01
Cattle (6-12 months old)	0.13	0.01
Cattle (0-6 months old)	0.07	0.01

<sup>1</sup>Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 4 Average net rainfall during the specified storage period

County	Millimetres per week
Carlow	24
Cavan	27
Clare	32
Cork	37
Donegal	38
Dublin	17
Galway	34
Kerry	45
Kildare	18
Kilkenny	23
Laois	22
Leitrim	33
Limerick	26
Longford	23
Louth	20
Mayo	40
Meath	19
Monaghan	23
Offaly	20
Roscommon	26
Sligo	32
Tipperary	27
Waterford	31
Westmeath	21
Wexford	25
Wicklow	33

Table 5 Storage capacity required for effluent produced by ensiled forage  
Article 9

Crop	Minimum storage requirement (m <sup>3</sup> /100 tonnes)	
	Short Term Storage <sup>1</sup>	Full Storage
Grass	7	21
Arable silage	7	21
Maize	4	10
Sugar beet tops	15	50

<sup>1</sup>Only permitted where a vacuum tanker or an irrigation system is available on the holding.

Article 14 and 20

Table 6 Annual nutrient excretion rates for livestock

Livestock type	Total Nitrogen kg/year	Total Phosphorus kg/year
Dairy cow	85	13
Suckler cow	65	10
Cattle (0-1 year old)	24	3
Cattle (1-2 years old)	57	8
Cattle > 2 years	65	10
Mountain ewe & lambs	7	1
Lowland ewe & lambs	13	2
Mountain hogget	4	0.6
Lowland hogget	6	1
Goat	9	1
Horse (>3 years old)	50	9
Horse (2-3 years old)	44	8
Horse (1-2 years old)	36	6
Horse foal (< 1 year old)	25	3
Donkey/small pony	30	5
Deer (red) 6 months — 2 years	13	2
Deer (red) > 2 years	25	4
Deer (fallow) 6 months — 2 years	7	1
Deer (fallow) > 2 years	13	2
Deer (sika) 6 months — 2 years	6	1
Deer (sika) > 2 years	10	2
Breeding unit (per sow place)	35	8
Integrated unit (per sow place)	87	17
Finishing unit (per pig place)	9.2	1.7
Laying hen per bird place	0.56	0.12
Broiler per bird place	0.24	0.09
Turkey per bird place	1	0.4

Article 15 and 20

Table 7 Amount of nutrient contained in 1m<sup>3</sup> of slurry

Livestock type	Total Nitrogen (kg)	Total Phosphorus (kg)
Cattle	5.0	0.8
Pig	4.2	0.8
Sheep	10.2	1.5
Poultry — layers 30% DM	13.7	2.9

For the purposes of calculation, assume that 1 m<sup>3</sup> = 1,000 litres = 1 tonne.

Table 8 Amount of nutrients contained in 1 tonne of organic fertilisers other than slurry

Livestock type		Total Nitrogen (kg)	Total Phosphorus (kg)
Poultry manure	broilers/deep litter	11.0	6.0
	layers 55% dry matter	23.0	5.5
	turkeys	28.0	13.8
Dungstead manure (cattle)		3.5	0.9
Farmyard manure		4.5	1.2
Spent mushroom compost		8	1.5
Sewage sludge		Total nitrogen and total phosphorus content per tonne shall be as declared by the supplier in accordance with the Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 to 2001 and any subsequent amendments thereto.	
Dairy processing residues and other products not listed above		Total nitrogen and total phosphorus content per tonne based on certified analysis shall be provided by the supplier.	

Article 15

Table 9 Nutrient availability in fertilisers

Fertiliser	Availability (%)		
	Nitrogen	Phosphorus	
		Soil Index 1 & 2	Soil Index 3 & 4
Chemical	100	100	100
Pig and poultry manure	50	50	100
Farmyard manure	30	50	100
Spent mushroom compost	20	50	100
Cattle and other livestock manure (including that produced on the holding)	40	50	100

Table 9A Nutrient availability in compost

Compost C:N ratio <sup>1</sup>	N availability (%)
<10	25
12.5	17.5
15.0	10
17.5	5.5
>20	0.0

<sup>1</sup>The determination of the C:N ratio shall be based on a methodology agreed with the Agency or the Minister for Agriculture, Food and the Marine

Table 10 Determining nitrogen index for tillage crops

Tillage crops that follow permanent pasture			
Nitrogen Index			
Index 1	Index 2	Index 3	Index 4
The 5th tillage crop following permanent pasture. For subsequent tillage crops use the continuous tillage table.	The 3rd or 4th tillage crop following permanent pasture. If original permanent pasture was cut only, use index 1.	The 1st or 2nd tillage crop following permanent pasture (see also Index 4). If original permanent pasture was cut only, use index 2.	The 1st or 2nd tillage crop following very good permanent pasture which was grazed only.
Continuous tillage: — crops that follow short leys (1-4 years) or tillage crops			
Previous crop			
Index 1	Index 2	Index 3	Index 4
Cereals Maize	Sugar beet Fodder beet Potatoes Mangels Kale Oil seed rape, Peas, Beans		
	Leys (1-4 years) grazed or cut and grazed.		
	Swedes removed	Swedes grazed in situ	
Vegetables receiving less than 200 kg/ha nitrogen	Vegetables receiving more than 200 kg/ha nitrogen		

Table 11 Phosphorus index system

Soil phosphorus index	Soil phosphorus ranges (mg/l)	
	Grassland	Other crops
1	0.0-3.0	0.0-3.0
2	3.1-5.0	3.1-6.0
3	5.1-8.0	6.1-10.0
4	> 8.0	>10.0



Table 12 Annual maximum fertilisation rates of available nitrogen on grassland

Grassland stocking rate <sup>1</sup> (kg/ha/year)	Available nitrogen <sup>2</sup> (kg/ha)
≤ 170	226
Grassland stocking rate greater than 170 kg/ha/year <sup>3</sup>	
171-210	306
211-250	279
>250	279 <sup>4</sup>

<sup>1</sup>Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (ha) (grazing and silage area). Stocking rate refers to grassland area only.

<sup>2</sup>The maximum nitrogen fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.

<sup>3</sup>This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted, in accordance with the Nitrates Directive).

<sup>4</sup>The application of Nitrogen from livestock manure (including that deposited by the animals themselves) to the eligible grassland area shall not exceed 250 kg Nitrogen per hectare per year.

Table 13 Annual maximum fertilisation rates of phosphorus on grassland

Grassland stocking rate <sup>1</sup> (kg/ha/year)	Phosphorus Index			
		2	3	4
	Available Phosphorus (kg/ha) <sup>2,3,6</sup>			
< 85	31	21	11	0
86 — 130	36	26	16	0
131-170	41	31	21	0
Grassland stocking rate greater than 170 kg/ha/year <sup>4,5</sup>				
171-210	46	36	26	0
211-250	51	41	31	0
>250	51	41	31	0

<sup>1</sup>Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (grazing and silage area). Stocking rate refers to grassland area only.

<sup>2</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

<sup>3</sup>Manure produced by grazing livestock on a holding may be applied to Index 4 soils on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.

<sup>4</sup>The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.

<sup>5</sup>This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).

<sup>6</sup>An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.

Table 14 Annual maximum fertilisation rates of available nitrogen on grassland (cut only, no grazing livestock on holding)

	Available nitrogen (kg/ha)
1 <sup>st</sup> cut	125
Subsequent cuts	100
Hay	80

Table 15 Annual maximum fertilisation rates of phosphorus on grassland cut only

Phosphorus Index				
	1	2	3	4
	Available Phosphorus (kg/ha) <sup>1, 2, 3</sup>			
First cut	40	30	20	0
Subsequent cuts	10	10	10	0

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

<sup>2</sup>The fertilisation rates apply to grassland where there is no grazing livestock on the holding.

<sup>3</sup>The fertilisation rates in this table apply to those areas of farms where hay or silage is produced for sale off the holding on farms stocked <85kg grassland stocking rate.

Table 16 Maximum fertilisation rates of nitrogen on tillage crops

Crop	Nitrogen Index			
	1	2	3	4
	Available Nitrogen (kg/ha)			
Winter Wheat <sup>1, 2</sup>	210	180	120	80
Spring Wheat <sup>1, 2</sup>	160	130	95	60
Winter Barley <sup>1</sup>	180	155	120	80
Spring Barley <sup>1, 3</sup>	135	100	75	40
Winter Oats <sup>1</sup>	145	120	85	45
Spring Oats <sup>1</sup>	110	90	60	30
Sugar Beet	195	155	120	80
Fodder Beet	195	155	120	80
Potatoes: Main crop	170	145	120	95
Potatoes: Early	155	130	105	80
Potatoes: Seed	155	130	105	80
Maize	180	140	110	75
Field Peas/Beans	0	0	0	0
Oilseed Rape	225	180	160	140
Linseed	75	50	35	20
Swedes/Turnips	90	70	40	20
Kale	150	130	100	70
Forage Rape	130	120	110	90

<sup>1</sup>Where proof of higher yields is available, an additional 20kg N/ha may be applied for each additional tonne above the following yields:

Winter Wheat — 9.0 tonnes/ha Spring Wheat — 7.5 tonnes/ha

Winter Barley — 8.5 tonnes/ha Spring Barley — 6.5 tonnes/ha

Winter Oats — 7.5 tonnes/ha Spring Oats — 6.5 tonnes/ha

The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.

<sup>2</sup>Where milling wheat is grown under a contract to a purchaser of milling wheat, an extra 30 kg N/ha may be applied.

<sup>3</sup>Where malting barley is grown under a contract to a purchaser of malting barley, an extra 20 kg N/ha may be applied where it is shown on the basis of agronomic advice that additional nitrogen is needed to address a proven low protein content in the grain.

Table 17 Maximum fertilisation rates of phosphorus on tillage crops

Crop	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) <sup>1</sup>			
Winter Wheat <sup>2,3</sup>	45	35	25	0
Spring Wheat <sup>2,3</sup>	45	35	25	0
Winter Barley <sup>2,3</sup>	45	35	25	0
Spring Barley <sup>2,3</sup>	45	35	25	0
Winter Oats <sup>2,3</sup>	45	35	25	0
Spring Oats <sup>2,3</sup>	45	35	25	0
Sugar Beet	70	55	40	20
Fodder Beet	70	55	40	20
Potatoes: Main crop	125	100	75	50
Potatoes: Early	125	115	100	50
Potatoes: Seed	125	115	100	85
Maize	70	50	40	20 <sup>4</sup>
Field Peas	40	25	20	0
Field Beans	50	40	20	0
Oil Seed Rape	35	30	20	0
Linseed	35	30	20	0
Swedes/Turnips	70	60	40	40
Kale	60	50	30	0
Forage Rape	40	30	20	0

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

<sup>2</sup>Where proof of higher yields is available, an additional 3.8kg P/ha may be applied on soils at phosphorus indices 1, 2, or 3 for each additional tonne above a yield of 6.5 tonnes/ha. The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.

<sup>3</sup>Where pH is greater than or equal to 7, 20kg P/ha may be applied on soils at phosphorus index 4.

<sup>4</sup>Must be incorporated prior to or during sowing.

Table 18 Maximum fertilisation rates of nitrogen on vegetable crops

Crop	Nitrogen Index				Maximum additional supplementation (Top dressing)
	1	2	3	4	
	Available Nitrogen (kg/ha)				
Asparagus (Establishment)	140	115	95	70	
Asparagus (After harvest)	100	100	100	100	
Broad Beans	0	0	0	0	
French Beans	90	85	75	70	
Beetroot	140	125	105	90	
Brussels Sprouts	120	115	105	100	180
Spring Cabbage	50	35	15	0	250
Other Cabbage	150	135	115	100	100
Broccoli	120	110	100	90	120
Cauliflower (Winter and Spring)	75	50	25	0	150
Cauliflower (Summer and Autumn)	120	80	40	0	120
Carrots	90	75	55	40	
Celery	120	85	65	50	180
Courgettes	140	125	105	90	
Leeks	100	90	80	70	100
Lettuce	100	90	80	70	50
Onions	70	60	50	40	70
Scallions	90	80	70	60	60
Parsley	100	80	60	40	150
Parsnip	100	85	70	50	50
Peas (Market)	0	0	0	0	0
Rhubarb	100	90	80	70	200
Spinach	140	125	105	90	100
Swede (Horticultural)	70	45	25	0	
Swede (Transplanted crops)	80	52	29	0	

Table 19 Maximum fertilisation rates of phosphorus on vegetable crops

Crop	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) <sup>1</sup>			
Asparagus (Establishment)	40	25	15	10
Asparagus (Maintenance)	27	17	10	7
Broad Beans	60	45	35	20
French Beans	60	45	35	20
Beetroot	60	45	35	20
Brussels Sprouts	60	45	35	20
Spring Cabbage	60	45	35	20
Other Cabbage	60	45	35	20
Broccoli	60	45	35	20
Cauliflower (Winter and Spring)	60	45	35	20
Cauliflower (Autumn)	60	45	35	20
Carrots	60	45	35	20
Celery	88	65	55	28
Courgettes	60	45	35	20
Leeks	60	45	35	20
Lettuce	60	45	35	20
Onions	60	45	35	20
Scallions	60	45	35	20
Parsley	60	45	35	20
Parsnip	60	45	35	20
Peas (Market)	60	45	35	20
Rhubarb	60	45	35	20
Spinach	60	45	35	20
Swede	70	60	45	35

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

Table 20 Annual maximum fertilisation rates of nitrogen on fruit/soft fruit crops

	Available Nitrogen (kg/ha)
Apples (Dessert)	125
Apples (Culinary)	125
Pears	50
Cherries	70
Plums	70
Blackcurrants	80
Gooseberries	40

	Available Nitrogen (kg/ha)
Raspberries	60
Strawberries	50
Redcurrants	60
Loganberries	50
Blackberries	50

Table 21 Annual maximum fertilisation rates of phosphorus on fruit/soft fruit crops

	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) <sup>1</sup>			
Apples (Desert)	25	16	12	8
Apples (Culinary)	20	12	10	8
Pears	16	8	4	0
Cherries	16	8	4	0
Plums	16	8	4	0
Blackcurrants	20	16	12	8
Gooseberries	20	16	12	8
Raspberries	20	16	12	8
Strawberries	16	8	4	0
Redcurrants	20	16	12	8
Loganberries	20	16	12	8
Blackberries	20	16	12	8

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

Table 22 Phosphorus excess limits Article 34(3)

Date	Total available phosphorus (kg/ha)
1 January 2013	5
1 January 2015	3
1 January 2017	0



SCHEDULE 3

*Articles 10, 11, 13 and 16*

STORAGE PERIODS FOR LIVESTOCK MANURE

1. The storage period specified for the purposes of Articles 10(2), 11(2), 13 and 16(5)(b) is—

- (a) 16 weeks in relation to holdings in counties Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford and Wicklow;
- (b) 18 weeks in relation to holdings in counties Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo and Westmeath;
- (c) 20 weeks in relation to holdings in counties Donegal and Leitrim, and
- (d) 22 weeks in relation to holdings in counties Cavan and Monaghan.

2. Where 20% or more of a holding lies within one or more counties of higher storage requirement as specified in paragraph 1, the holding shall be deemed for the purposes of this Schedule to lie wholly within the county in relation to which the longest storage period is specified.

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## SCHEDULE 4

*Articles 14, 17 and 19*

## PERIODS WHEN APPLICATION OF FERTILISERS TO LAND IS PROHIBITED

1. In counties Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford and Wicklow, the period during which the application of fertilisers to land is prohibited is the period from—

- (a) 15 September to 12 January in the case of the application of chemical fertiliser
- (b) 15 October to 12 January in the case of the application of organic fertiliser (other than farmyard manure)
- (c) 1 November to 12 January in the case of the application of farmyard manure.

2. In counties Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo and Westmeath, the period during which the application of fertilisers to land is prohibited is the period from—

- (a) 15 September to 15 January in the case of the application of chemical fertiliser
- (b) 15 October to 15 January in the case of the application of organic fertiliser (other than farmyard manure)
- (c) 1 November to 15 January in the case of the application of farmyard manure.

3. In counties Cavan, Donegal, Leitrim and Monaghan, the period during which the application of fertilisers to land is prohibited is the period from—

- (a) 15 September to 31 January in the case of the application of chemical fertiliser
- (b) 15 October to 31 January in the case of the application of organic fertiliser (other than farmyard manure)
- (c) 1 November to 31 January in the case of the application of farmyard manure.



GIVEN under the Official Seal of the Minister for the Environment,  
Community and Local Government,  
28 January 2014.

PHIL HOGAN,  
Minister for the Environment, Community and  
Local Government.

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## EXPLANATORY NOTE

*(This note is not part of the Instrument and does not purport to be a legal interpretation)*

These Regulations revoke, the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2010.

These Regulations, which give effect to Ireland's 3rd Nitrates Action Programme, provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources and include measures such as-

- periods when land application of fertilisers is prohibited
- limits on the land application of fertilisers
- storage requirements for livestock manure, and
- monitoring of the effectiveness of the measures in terms of agricultural practice and impact on water quality.

The Regulations give further effect to several EU Directives including Directives in relation to protection of waters against pollution from agricultural sources ("the Nitrates Directive"), dangerous substances in water, waste management, protection of groundwater, public participation in policy development and water policy (the Water Framework Directive).

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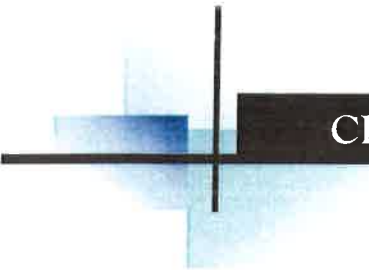
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## ***Appendix No. 18***

# ***Construction and Demolition Waste Management Plan***

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**Construction and Demolition**  
**Waste Management Plan**

**For**

**proposed Development**  
**On Existing Pig Farm**

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**At**

**Ardra,**  
**Bracknagh,**  
**Co. Offaly.**

**Date: 9<sup>th</sup> December 2014**

**Applicant:**

Rosderra Farms,  
Bracknagh Pig Farm,  
Ardra,  
Bracknagh,  
Co. Offaly.

**Proposed Development:**

- A) demolish 10 No. existing pig houses, and,  
B) to construct 2 No. Pig Houses, and, extensions to two No. existing structures to form pig house No. 3,

together with all ancillary structures (to include meal storage bins, storage tanks, stormwater attenuation tank) and all associated site works on the site of an existing pig farming enterprise located at Ardra, Bracknagh, Co. Offaly.

**Location:**

Ardra, Bracknagh, Co. Offaly.

**Planning Permission Reference Number:**

(Pending)

### **Background:**

The following Construction and Demolition (C&D) Waste Management Plan has been completed in accordance with the Department of Environment, Heritage and Local Government, Best Practice Guidelines on the preparation of Waste Management Plans for Construction and Demolition Projects, July 2006.

### **Introduction:**

The management of C&D waste on this site should reflect the waste management hierarchy, with waste prevention and minimisation being the first priority succeeded by reuse and recycling. The subsequent use of recycled materials in reconstruction works also reduces the quantities of waste which ultimately needs to be consigned to landfill sites.

In this phase of the development, the proposed development has been subdivided into 3 areas of work for the purposes of this plan;

1. Demolition of Existing Pig Houses.
2. Site Development
3. Construction of new pig houses.

### **Prevention of Waste:**

The primary effort therefore should be to engage in waste prevention and reduce the amount of waste generated in the first place i.e. minimise the resources needed to do the job. Prevention is financially advantageous as it reduces the purchase of construction materials and reduces the need to remove wastes from the site.

As the proposed works related to the demolition of existing structures, the prevention of waste can be minimized by;

- Renovating existing buildings where appropriate.
- Re-using materials where appropriate.
- Re-cycling wastes where appropriate.
- Waste disposal as a last resort.

**Renovation:** which retains and repairs existing structural and decorative elements, with the introduction only where necessary of new items, contributes greatly to a reduction in C&D waste arisings.

**Renovation of existing buildings has already been considered in terms of the overall development of the site. Hence 2 of the existing structures are to remain and be extended to form Pig House No. 3. In addition the 2 No. overground structures are to remain in situ. Renovation of the existing buildings to achieve the required welfare and environmental standards was deemed to be unviable. As a result renovation of the remaining buildings cannot be explored any further in the context of this Demolition Waste Management Plan.**

**Reuse of Waste;**

Material that is generated should be reused on site or salvaged for subsequent reuse to the greatest extent possible and disposal should only be considered as a last resort. Initiatives should be put in place to maximise the efficient use/reuse of materials. Innovative initiatives to avoid the need for disposal should be investigated.

**Recycling of Waste:**

There are a number of established markets available for the beneficial use of C&D waste:

- waste timber can be recycled as shuttering or hoarding, or sent for reprocessing as medium density fibreboard;
- waste concrete can be utilised as fill material for roads or in the manufacture of new concrete when arising at source; and
- in addition, the technology for the segregation and recovery of stone, for example, is well established, readily accessible and there is a large reuse market for aggregates as fill for roads and other construction projects. Bitmac and Asphalt can also be recycled in roads projects.

**Overall Management of C&D Waste on the Farm:**

As this is a typical agricultural development, there are no waste streams with the potential for significant adverse environmental impact. The site owner, is experienced at carrying out similar development projects on this, or other farms, and will be responsible for the management of C & D waste from this farm. All external contractors to be used will be experienced with regard to pig farm developments.

### **Demolition Plan:**

This phase of the proposed development will involve the demolition of c. 10 No. Pig Houses.

It is important to emphasise the potential for certain procedures to contribute to a reduction in excessive material wastage on site. The demolition of the buildings will be carried out in the following way;

1. Emptying of all feed storage bins and implementation of rodent control programme on site. (Follow Bord Bia approved rodent control programme that was implemented on-site when the farm was operational).
2. Removal of any remaining slurry/soiled water from the pig manure storage tanks and allocation of same to customer farmers in accordance with S.I. 31 of 2014 as per normal agricultural practice.
3. Disconnection of services (E.S.B., Water etc.)
4. Identification of any Hazardous wastes on site. This would include Asbestos and Fluorescent light tubes. (None Present)
5. Identification, removal and segregation of any re-usable and/or saleable equipment/fixtures/fittings.
6. Removal of any remaining fixtures and fittings (incl. electrical) and segregation into recyclable and/or disposal.
7. Removal and appropriate handling and storage of roof sheeting..
8. Removal of Building superstructure and separation into timber, steel, rubble and other (insulation etc.).

**Note: Designated skips/storage areas to be provided for different waste streams.**

**Demolition waste Types and  
projected disposal/recovery routes:**

- |                                  |   |   |
|----------------------------------|---|---|
| ➤ Internal fixtures and fittings | - | Pig feeding systems, troughs, piping, ventilation systems, penning, farrowing crates etc. to be re-used and/or sold.  |
| ➤ Metal and Electrical           | - | To be removed, segregated and stored for re-use on the farm or recycling –<br>Midland Scrap Company Ltd.<br><b><u>WCP-DC-08-1118.</u></b>                         |
| ➤ Fluorescent Tubes              | - | Return to Supplier and/or Mullingar Electrical.<br><b><u>WEEE Ireland</u></b>   |
| ➤ Insulation/Timber              | - | To be used in current building Works and/or repairs to existing buildings. Excess to be removed off-site by<br>AES Tullamore –<br><b><u>NWCPO-08-10601-01</u></b> |
| ➤ General Waste`                 | - | To be removed offsite by AES Tullamore –<br><b><u>NWCPO-08-10601-01</u></b>   |
| ➤ Clean Rubble/Concrete          | - | To be used as infill material as part of proposed building works.   |



### **Site - Development Plan:**

The proposed development is to be completed on a brown field area, on the site of the existing pig farm structures. This will involve excavating the site of the proposed Pig Houses to facilitate site leveling requirements and the construction of underslat manure storage tank. This will involve the excavation of a certain amount of spoil/rubble. Where possible a significant proportion of this will be used to level low-lying parts of the site and as back fill around the tanks with any remaining soil to be used elsewhere on the farm. In the interim, all excavated spoil is to be stored on site.

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### **Construction Plan:**

It is important to emphasise the potential for certain purchasing procedures to contribute to a reduction in excessive material wastage on site. Examples include:

- ordering materials on an "as needed" basis to prevent oversupply;
- purchasing coverings, panelling or other materials in shape, dimensions and form that minimises the creation of excessive scrap waste on site;
- ensuring correct storage and handling of construction materials to minimise generation of damaged materials/waste
- ensuring correct sequencing of operations.

The proposed development of a regular shaped buildings, similar, and in some cases identical construction methods to that previously completed on other similar pig farms, will minimise the amount of waste material on the site. A significant amount of materials can be manufactured to the required size off site. In order to minimize wastage and other adverse impacts;

- where possible all concrete and aggregates will be ordered and supplied to exactly meet requirements.
- Slats will be made to order off site, for the proposed houses, eliminating any potential waste.
- The proposed steel superstructure for the building will be made to order off site, and will only require erection on site, thus eliminating any waste.
- The roofing timbers can be ordered to size thus eliminating the need for cutting and wastage.
- All internal fixtures and fittings will be made to order off site and delivered to the site for installation.

- Any wastes that may arise on site will be appropriately stored, recycled where possible with any remaining wastes disposed of as previously outlined.

**Conclusion:**

Due to the nature of the proposed development, i.e. agricultural, there are no areas of significant concern with regard to the proposed development. The operator is greatly experienced at overseeing similar developments on this, and other pig farms and will be in charge of the management of the demolition waste management plan.

Appropriate records are to be maintained of all materials sent off site for recycling/disposal.

**Signed:** \_\_\_\_\_

**Mr. Paraic Fay**

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**Date:** \_\_\_\_\_

## ***Appendix No. 19***

### ***Flood Risk Assessment & Stormwater Attenuation Proposals***

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CLW ENVIRONMENTAL

RE-DEVELOPMENT OF ROSDERRA FARMS,

BRACKNAGH, CO OFFALY

SITE SPECIFIC FLOOD RISK ASSESSMENT



*Integrated Engineering Consulting*  
**An Associate Company of VA Consulting Engineers & Geotechnical & Environmental Services Ltd**



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**CLW ENVIRONMENTAL**  
**RE-DEVELOPMENT OF ROSDERRA FARMS,**  
**BRACKNAGH, CO OFFALY**

**SITE SPECIFIC FLOOD RISK ASSESSMENT**

Client :-  
CLW Environmental,  
Farnham Street,  
Cavan

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IE Consulting  
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Green Road  
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*Appendix A*

*Drawing Number IE936-001-A*

*Drawing Number IE936-002-A*

*Drawing Number IE936-003-B*

*Drawing Number IE936-004-A*

*Drawing Number IE936-005-C*

*Drawing Number IE936-006-B*

*Appendix B*

*Flood Studies Update Calculations*

*Appendix C*

*Stormwater Management Calculations*

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## 1 Introduction

IE Consulting were requested by CLW Environmental, on behalf of Rosderra Farms, to undertake a Site Specific Flood Risk Assessment (SSFRA) for proposed site re-development works for an existing piggery facility at Bracknagh, Co. Offaly. The proposal is to improve and replace existing structures at the facility, generally within the same footprint area, with modern structures designed to comply with current Department of Agriculture regulations and specifications.

The purpose of this SSFRA is to assess the potential flood risk to the proposed development site and to assess the impact that the development may or may not have on the hydrological regime of the area.

This SSFRA also provides recommendations and outline details for a suitable stormwater management system to serve the proposed development.

A hydrogeologist and hydrological engineer from IE Consulting undertook a survey of the site area and surrounding catchment on 22<sup>nd</sup> September 2014.

Quoted ground levels or estimated flood levels relate to Ordnance Datum Malin unless stated otherwise.

This flood risk assessment study has been undertaken in consideration of the following guidance document:-

*'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' DOEHLG 2009.*

## 2 Proposed Site Description

### 2.1 General

The proposed development site is located approximately 1.4 Km west of Bracknagh Village and within the existing piggery site. The existing piggery facility is licenced by the EPA under IPPC Licence No. P0614-01 and is currently fully compliant with all relevant EPA licence conditions and local authority planning permissions. *Drawing No. IE936-002-A Appendix A*, illustrates the existing piggery facility layout. As noted on the drawing the existing piggery facility floor levels are at or close to surrounding ground levels. *Drawing No. IE936-003-B Appendix A* illustrates the proposed works at the piggery facility. As illustrated it is proposed to replace the existing structures at the piggery facility with modern structures designed to comply with current Department of Agriculture regulations and specifications. In general the proposed replacement structures shall be constructed within the same foot-print area as existing structures, however the proposed structures shall generally be constructed with finished floor levels 1.8m above existing floor levels and above proposed new slurry storage tanks. The proposed slurry storage tanks shall be designed to be liquid containing structures and to comply with current Department of Agriculture regulations and specifications. In summary, the proposed development comprises the upgrading and modernisation of existing facilities at the site – no intensification of activities are proposed at the facility.

The site is bounded to the north, west and south by agricultural lands and to the east by the Figile River. The existing site area is approximately 3.86 hectares.

A regional location map of the proposed development site is shown on *Drawing Number IE936-001-A, Appendix A*.

### 2.2 Existing Topography Levels at Site

The proposed development site is predominantly flat with a gentle slope from east to west. Existing ground elevations range from 61.0 m OD (Malin) to 61.5 m OD (Malin) in the main part of the site to 62.0m OD (Malin) along the eastern boundary of the site adjacent to the Figile River.

### 2.3 Local Hydrology, Landuse & Existing Drainage

On the day of site survey the proposed development site appeared to be well drained and free from any standing water.

The most immediate hydrological feature in the vicinity of the proposed development site is the watercourse that generally flows from north to south along the eastern boundary of the site. This watercourse is mapped as the Figile River.

Utilising the EPA Hydrometric Data System the catchment area of the Figile River was delineated. The total catchment area of the river was found to be **291.5km<sup>2</sup>** to the downstream boundary of the piggery site.

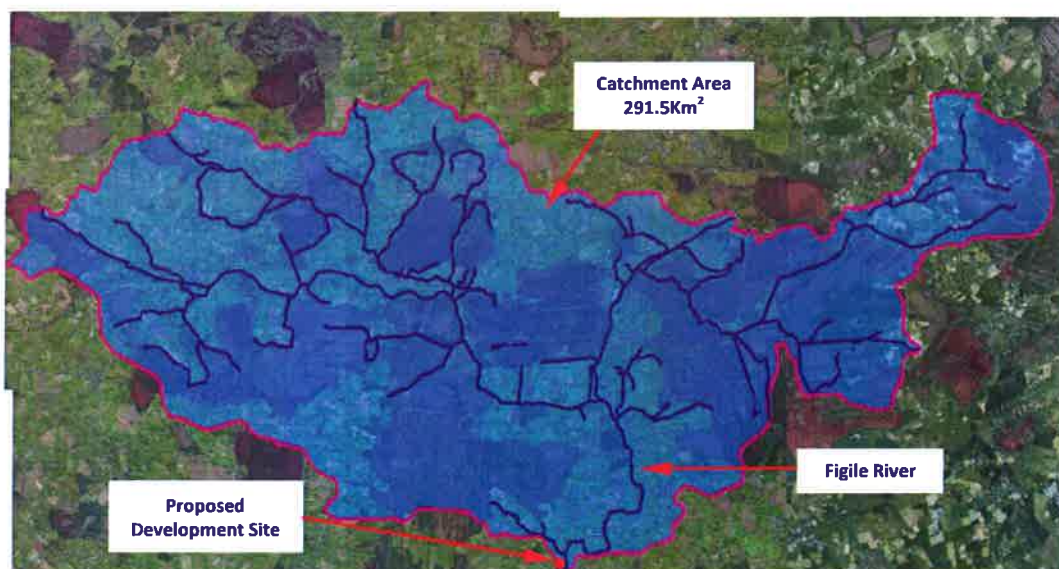
The Figile River rises in several tributaries in upland areas approximately 16 km to the north-west, north and north-east of Bracknagh village in the townlands of Daingean, Oldcroghan, Toberdaly, Clonlack, Leitrim, Derries, Killinthomas, Lullymore East, Derrinturn and Ballymakill Upper.

The Figile River tributaries drain large areas to the north-west and north-east of the proposed development site and generally flow in a south-east and south-west direction until they join the Figile River approximately 5.2Km north-east of the proposed development site. From this point the Figile River flows in a south-east direction for a distance of approximately 3.8Km, at which point the river turns through a series of meanders for a distance of approximately 5Km before flowing in a south-east direction for approximately 3Km where it is joined by the Slate River, before flowing south-east for an additional 3Km where it is joined by the Cushina River. The Figile River then flows south-east for approximately 5Km where it joins the River Barrow south-east of Bracknagh village at grid reference 262058, 211349.

The watercourse is considered to have a relatively shallow gradient. Elevations range from 130m to 100m AOD at the head of the catchment to approximately 70 m AOD where the three tributaries meet, with gradients ranging from approximately 0.16% to 0.28%. The river gradient then reduces slightly from this point, with an elevation of 70 mAOD sloping down towards the proposed site with an elevation of approximately 61 mAOD at the proposed site, a gradient of approximately 0.1%.

Assessment of the existing upstream catchment area indicates a predominantly rural catchment area, with urban development accounting for approximately 0.01% of the total catchment area.

A map of the catchment area of the Figile River upstream of the proposed development site is shown in *Figure 1* below:-



**Figure 1 – Figile River Catchment Area**

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### 3 Initial Flood Risk Assessment

The flood risk assessment for the proposed development site is undertaken in three principle stages, these being 'Step 1 – Screening', 'Step 2 – Scoping' and 'Step 3 – Assessing'.

#### 3.1 Possible Flooding Mechanisms

Table 1 below summarises the possible flooding mechanisms in consideration of the proposed development site:-

Source/Pathway	Significant?	Comment/Reason
Tidal/Coastal	No	Site is not at a coastal location
Fluvial	Yes	The Figile River flows adjacent to the eastern boundary of the site
Pluvial (urban drainage)	No	There is no significant urban drainage infrastructure in the vicinity of the site
Pluvial (overland flow)	No	The site is not surrounded by significantly elevated lands and does not provide a surface water discharge point to adjacent lands
Blockage	No	There are no significant or restrictive hydraulic structures located on the Figile River immediately downstream of the proposed development site
Groundwater	No	There are no significant springs or groundwater discharges recorded in the immediate vicinity of the site

**Table 1**

The primary flood risk to the proposed development site can be attributed to a fluvial flood event in the Figile River.

## 4 Screening Assessment

The purpose of the screening assessment is to establish the level of flooding risk that may or may not exist for a particular site and to collate and assess existing current or historical information and data which may indicate the level or extent of any flood risk.

If there is a potential flood risk issue then the flood risk assessment procedure should move to 'Step 2 – Scoping Assessment' or if no potential flood risk is identified from the screening stage then the overall flood risk assessment can end at 'Step 1'.

The following information and data was collated as part of the flood risk screening assessment for this particular site:-

### 4.1 OPW/EPA/Local Authority Hydrometric Data

Existing sources of OPW, EPA and local authority hydrometric data were investigated. As illustrated in Figure 2 below, this assessment has determined that there is one gauging station on the Figile River Downstream of the site (Station 14017). This station is listed as an inactive staff gauge only station. Available water level data for this station was obtained from the OPW for the period 1940-1972. As discussed in Section 8 below, this data was used to provide a preliminary indication of flood levels at the proposed development site.

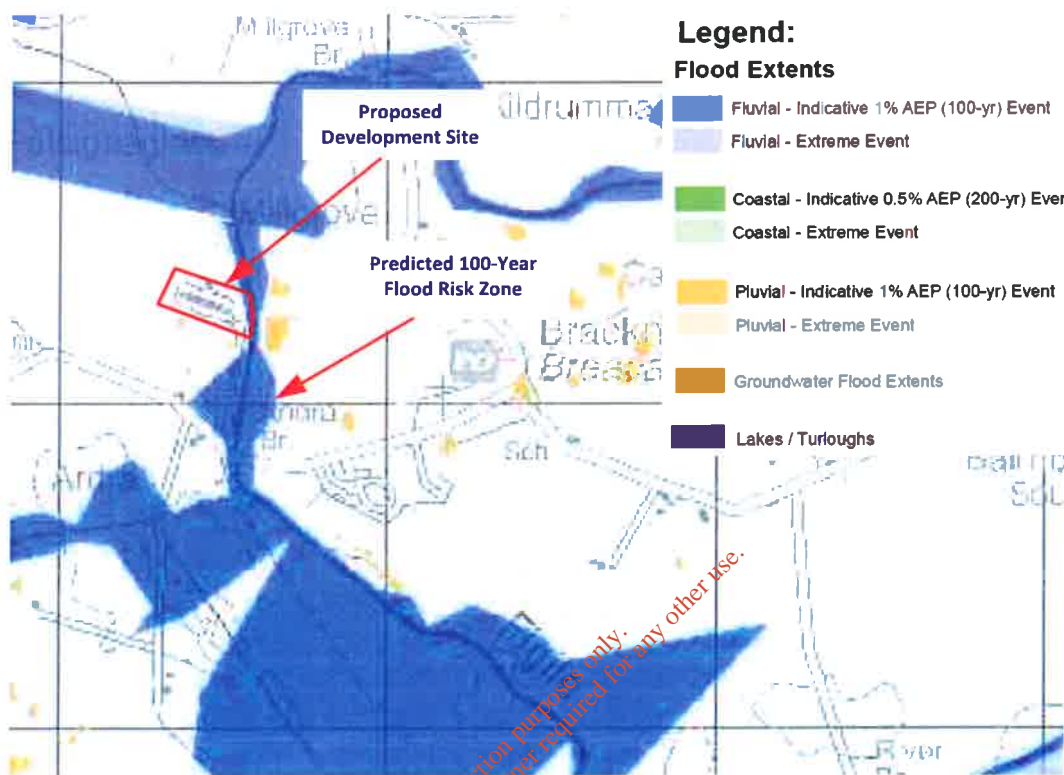


**Figure 2 – Hydrometric Stations**

#### **4.2 OPW Draft PFRA Predictive Flood Mapping**

Preliminary Flood Risk Assessment (PFRA) Mapping for Ireland was produced by the OPW in 2011. OPW PFRA predictive flood map number 2019/MAP/123/A illustrates predictive flood zones within this area of County Offaly.

Figure 3 below illustrates an extract from the above predictive flood map in the vicinity of the proposed development site.

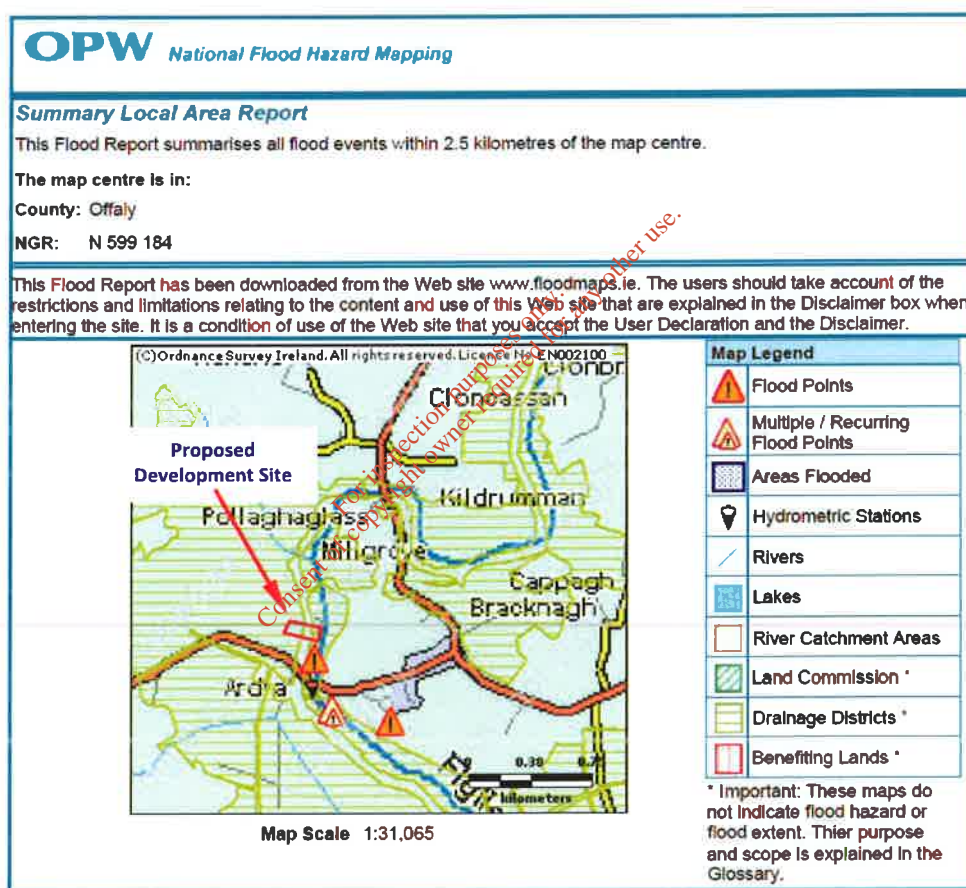


**Figure 3 – PFRA Mapping**

The PFRA predictive flood mapping above indicates a small area of mapped fluvial flood zone immediately adjacent to the Figile River, however potential fluvial flood zones are not mapped within the boundary of the existing piggery / proposed development site. It should be noted that the predicted extent of flooding illustrated on these maps was developed using a low resolution digital terrain model (DTM) and illustrated flood extents are intended to be indicative only.

#### 4.3 OPW Flood Maps Website

The OPW Flood Maps Website ([www.floodmaps.ie](http://www.floodmaps.ie)) was consulted in relation to available historical or anecdotal information on any flooding incidences or occurrences in the vicinity of the proposed development site. Figure 4 below illustrates mapping from the Flood Maps website in the vicinity of the proposed development site.



**Figure 4 – OPW Flood Maps**

Figure 4 above indicates that part of the existing piggery / proposed development site falls within a mapped Drainage District. Whilst 'Drainage District' designation does not indicate a particular flood hazard or flood extent it does identify lands that might benefit from the implementation of Arterial



(Major) Drainage Schemes (under the Arterial Drainage Act 1945) and indicates areas of lands potentially subject to flooding or poor drainage

Figure 4 above also indicates a flood point and multiple / recurring flood points downstream of proposed development site. Reference to information and details obtained from the Flood Maps Website indicates that these incidents of flooding in particular relate to flooding at lands adjacent to Ardra Bridge and Bracknagh village, and which are described as being within the Figile River floodplain and flooding most winters.

The Flood Maps Website also contains a number of aerial images of flood inundation that occurred following the significant rainfall event of 16<sup>th</sup> August 2008. Figure 5 and Figure 6 below shows areas of flood inundation in the vicinity of the existing piggery / proposed development site taken on 19<sup>th</sup> August 2008 – these images do not illustrate peak flood levels but do illustrate the existing piggery / proposed development site to be relatively free from flood water in comparison to surrounding lands.



**Figure 5**



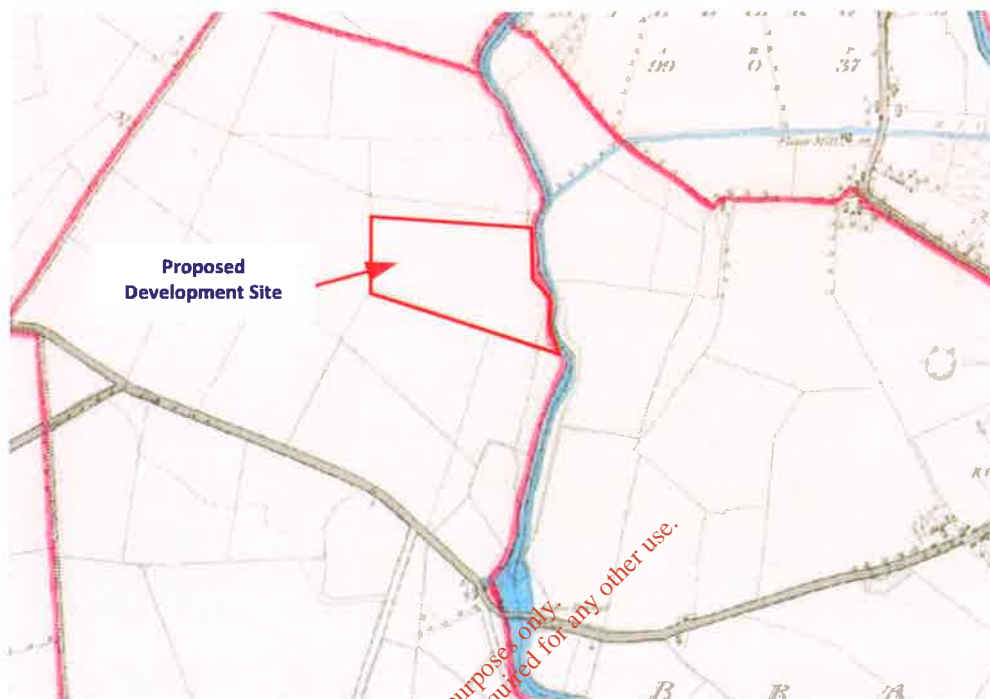


**Figure 6**

#### **4.4 Ordnance Survey Historic Mapping**

Available historic mapping for the area was consulted, as this can provide evidence of historical flooding incidences or occurrences. The maps that were consulted were the historical maps (pre-1900), and the Six-inch map series.

*Figure 7 and Figure 8* below shows the historic mapping for the area of the proposed development site.



**Figure 7 – Historic Mapping**

Figure 8 below shows the Six-inch mapping for the area of the proposed development site.

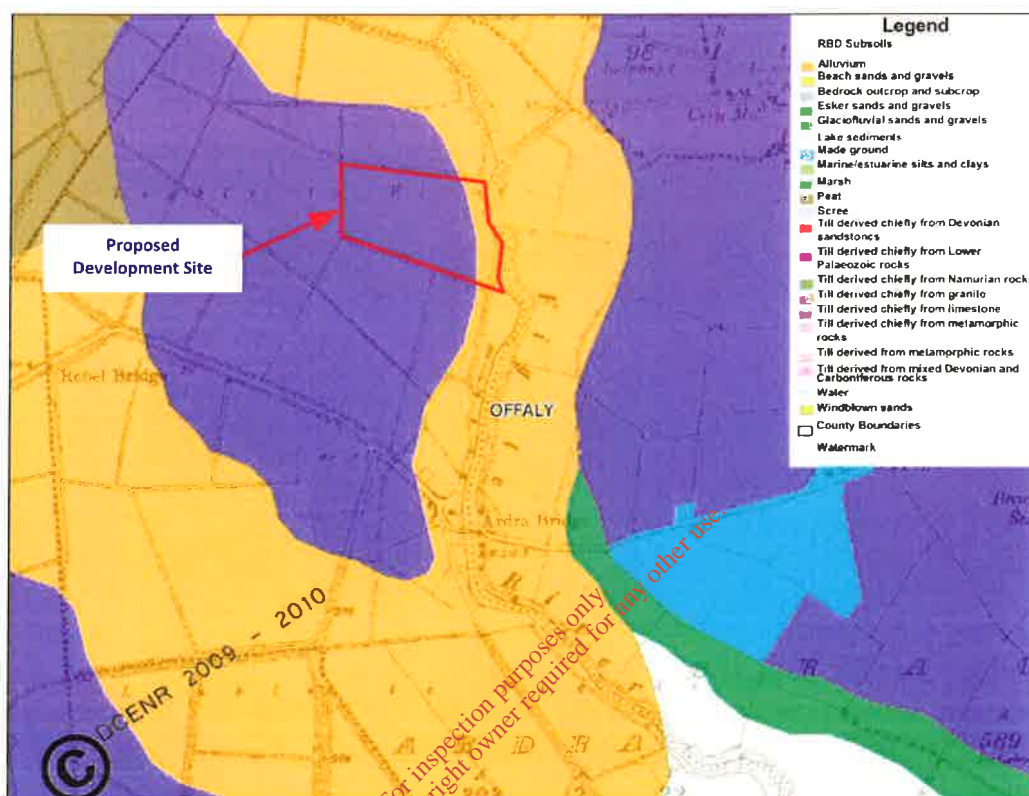


**Figure 8 – Historic Six Inch Mapping**

The pre-1900's historic mapping and 6 inch mapping indicates that the area is liable to floods. However, the extent of past flooding is not indicated on the historic mapping.

#### **4.5 Geological Survey of Ireland Mapping**

The alluvial deposit maps of the Geological Survey of Ireland (GSI) were consulted to assess the extent of alluvial deposits in the vicinity of the proposed development site. Alluvium deposits can be an indicator of areas that have flooded in the recent geological past. Figure 9 below shows the Teagasc sub-soils mapping for the general area of the proposed development site.



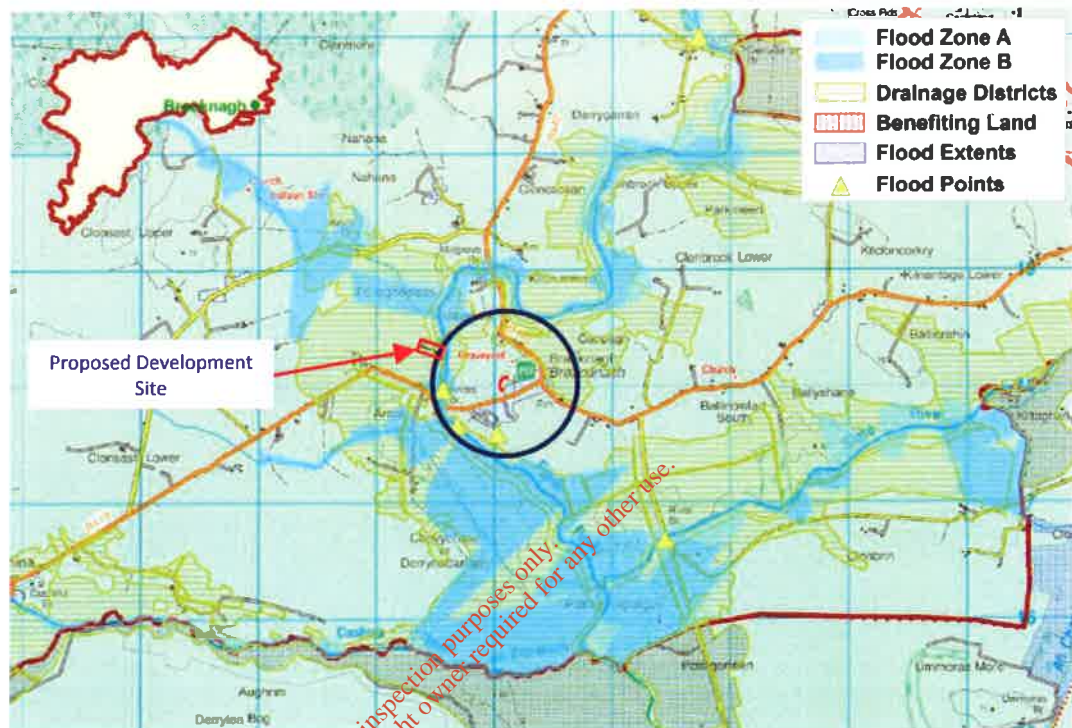
**Figure 9 – GSI Subsoil Mapping**

Figure 9 above indicates that the sub-soil conditions at the proposed development site consist of limestone tills with some areas of alluvium deposits mapped as extending approximately 15m into the site from the eastern boundary.

#### 4.6 Draft Offaly County Development Plan Strategic Flood Risk Assessment

As part of the Draft Offaly Development Plan 2014-2020 a Strategic Flood Risk Assessment (SFRA) has been produced by Offaly County Council to help inform planning decisions and considerations. The SFRA has produced a series of maps delineating Flood Zones 'A' and 'B' within County Offaly. The flood zone delineation was undertaken using the current and available data sources as discussed in Sections 4.1 to 4.5 above and using a flood risk indicator matrix.

Figure 10 below illustrates the flood zone delineation mapping for the area of the proposed development site produced as part of this SFRA.



**Figure 10 –Draft Offaly SFRA Mapping**

Figure 10 above does not indicate any significant areas of mapped Flood Zone A or Flood Zone B within the boundary of the existing piggery / proposed development site, however part of the site falls within a mapped 'Drainage District'. It should be noted that the flood zone delineation illustrated on the SFRA mapping is intended to inform local planning decisions and is not intended to be used on a site specific basis.

#### 4.7 Anecdotal Evidence

Consultation with the site owners determined that some limited inundation of flood waters have occurred only once during the lifespan of the existing piggery facility (c. 20-25 years). This occurred at the peak of the August 16<sup>th</sup> – August 19<sup>th</sup> 2008 flood event during which time flood inundation to a maximum level of 0.6m was noted within the hardstanding access roads and parking areas adjacent to facility buildings and structures, however no inundation of buildings was noted at this time.



The purpose of the screening exercise is to establish whether a flood-risk issue exists or may exist in the future. If there is a potential flood risk issue then, in accordance with *'The Planning System and Flood Risk Management – Guidelines for Planning Authorities'* the flood risk assessment procedure should move to *'Step 2 – Scoping Assessment'* or if no potential flood risk is identified from the screening stage then the overall flood risk assessment can end at *'Step 1'*.

Based on the findings of the screening assessment that has been undertaken for this particular site, and primarily considering the proximity of the Figile River to the site, this flood risk assessment is required to proceed to *'Step 2 – Scoping Assessment'*.

## 5 Scoping Assessment

The purpose of the scoping stage is to identify possible flood risks and to implement the necessary level of detail and assessment to assess these possible risks, and to ensure these can be adequately addressed in the flood risk assessment. The scoping exercise should also identify that sufficient quantitative information is already available to complete a flood risk assessment appropriate to the scale and nature of the development.

In consideration of the above scoping assessment the primary risk of potential flooding to the proposed development site can be attributed to a fluvial flood event in the Figile River.

This risk is assessed in the subsequent *'Assessing Flood Risk'* stage of this study.

## 6 Assessing Flood Risk

Flood risk from a particular watercourse is normally assessed for a 1 in 100 and 1 in 1000 year flood event, in accordance with most county development plans and with the DOEHLG guidelines *'The Planning System and Flood Risk Management'*.

### 6.1 Prediction of Peak Flows in the Figile River Watercourse

Peak flood flows within the Figile River were predicted using the OPW Flood Studies Update (FSU) portal software. The FSU portal software allows for the estimation of peak flows through three stages of calculations:



- *estimation of Index Flood*
- *estimation of appropriate growth curve*
- *flood frequency curve derivation*

These stages vary depending on whether the catchment is gauged or ungauged and can only be reliably used for catchments greater than 25 km<sup>2</sup>. In the case of ungauged catchments, the Index Flood, or QMED, is first calculated based on the chosen catchments characteristics. This value is then correlated using flow data recorded on a catchment with similar characteristics. This second catchment is called the pivotal site.

A pivotal site must be selected when the catchment being analysed is ungauged. This allows the FSU software to incorporate data from the gauged pivotal site into the ungauged selected site where necessary. All pivotal sites are hydrometric gauging stations that were used in the supporting analysis for the FSU methodology and the annual maximum (AMAX) series data at these stations has been quality checked and classified. The chosen pivotal site should ideally lie a short distance either upstream or downstream of the selected site, although any site within the country can be deemed suitable if hydrologically similar enough to the selected site.

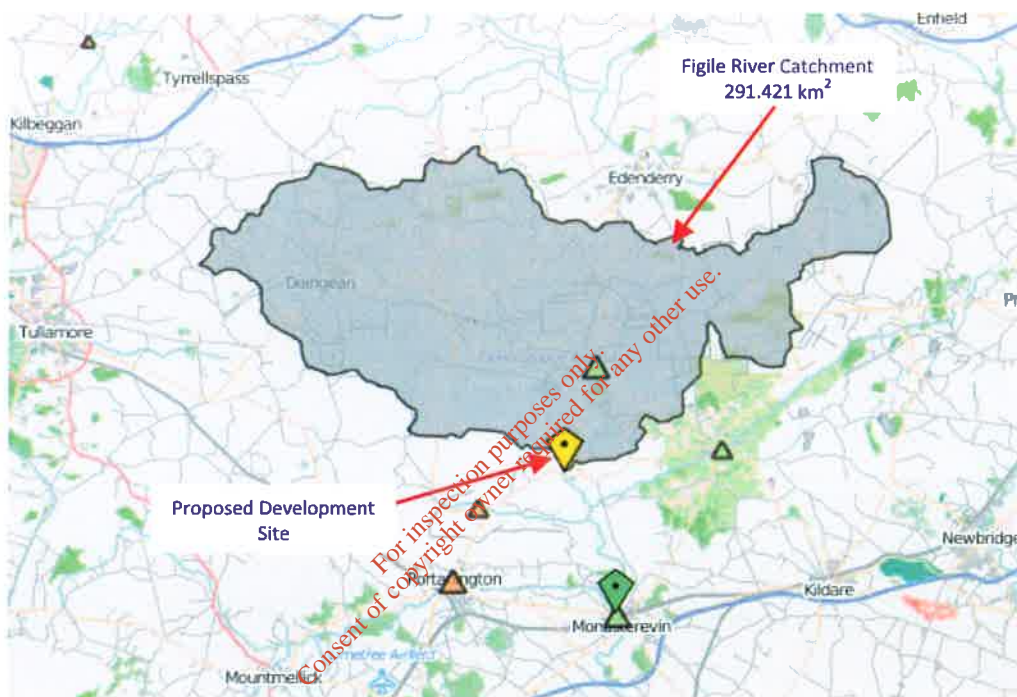
Once the value of QMED has been established, an appropriate growth curve is constructed. Where the site in question is ungauged, this is accomplished within the FSU software by tabulating gauging stations on catchments with similar hydrological characteristics and creating a pooled flood frequency analysis curve.

Pooling is required to avoid reliance on a single flood frequency curve when extrapolating long return period events.

No suitable historical flow data or hydrometric gauging station data is available from the OPW, EPA or local authority for the Figile River catchment area and therefore the ungauged methodology was applied within the FSU software.

## 6.2 Subject Site Selection

The subject site catchment selected within the FSU software is shown below in *Figure 11*. The point taken for the calculation of the catchment is located 200m downstream of the proposed development site.



**Figure 11 – Figile River Catchment**

The FSU software generated catchment characteristics for the selected site and these are included in *Appendix B*.

## 6.2 Pivotal Site Selection

Four possible pivotal sites lie downstream of the selected site. The FSU Station 14006 at Pass Bridge, Monasterevin, Co. Kildare was chosen as the most suitable pivotal site based on the closest hydrological similarity value of 1.1218 (values < 1 are considered similar with lower values indicating closer similarity) and the stations closer proximity to the site. For full pivotal site catchment characteristics, refer to *Appendix C*.

## 6.3 Index Flood Estimation

The QMED or index flood value was calculated by the FSU software for the Figile River based on the catchment characteristics and the annual maximum flow series data from the pivotal site.

The FSU software applies an adjustment factor to the calculated QMED value derived from a ratio of the pivotal site QMED and the selected site estimated QMED. *Table 2* below shows the calculated QMED flows for the Figile River and pivotal site.

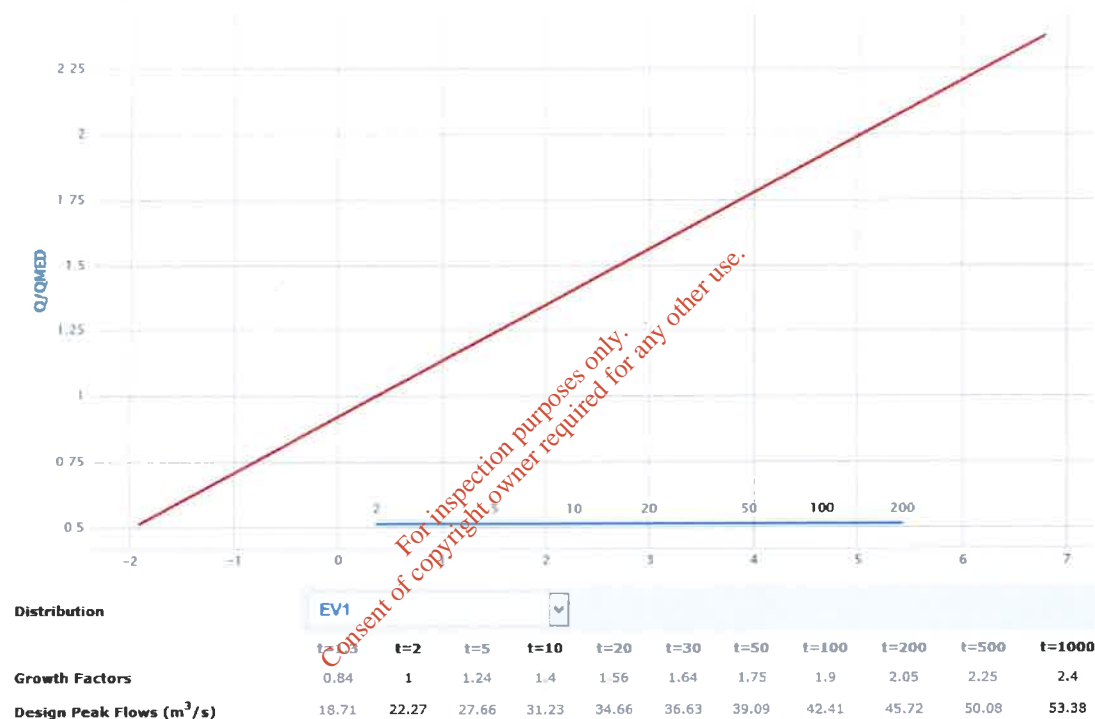
Figile River QMED (m <sup>3</sup> /s)	22.27
Pivotal Site QMED (m <sup>3</sup> /s)	80.26
Pivotal Adjustment Factor	0.7066
Figile River Adjusted QMED (m <sup>3</sup> /s)	<b>15.7384</b>

**Table 2 –Figile River Predicted QMED Flow**

It was decided to use the unadjusted QMED value of **22.27 m<sup>3</sup>/s** for the Figile River as this is a more conservative estimate of flow.

#### 6.4 Pooled Flood Frequency Analysis

The flood frequency curve for the Figile River was constructed within the FSU software using a pool of 19 hydrologically similar sites. For the full list of hydrometric stations used in the analysis, refer to Appendix C. Figure 12 and Table 3 below shows the final output from the FSU software, giving details of return period growth factors for the Figile River.



**Figure 12 – Predicted Flow Growth Factors**

Flood Return Period (Yrs)	2	5	10	20	30	50	100	1000*
Growth Curve Factor (Q <sub>r</sub> /Q <sub>BAR</sub> )	1.00	1.24	1.40	1.56	1.64	1.75	1.90	2.40

**Table 3 - Growth Factors Estimated for Figile River Discharge Prediction**

Table 4 below illustrates the estimated peak flood flow in the Figile River at the point of interest for the various return period events: -

Flood Return Period (Yrs)	2	5	10	20	30	50	100	1000*
Estimated Peak Flow (m <sup>3</sup> /s)	22.27	27.66	31.23	34.66	36.63	39.09	42.41	53.38

**Table 4 – Estimated Peak Flows in the Figile River for Various Return Periods**

The estimated design 100-year and 1000-year flood flows for the Figile River along the reach under consideration is therefore:-

$$Q_{100} = 42.41 \text{ m}^3/\text{s}$$

$$Q_{1000} = 53.38 \text{ m}^3/\text{s}$$

(\*Note – The  $Q_{1000}$  value is a design flow. The  $Q_{100}$  value is estimated and is presented only to assess the 1000 year Average Recurrence Interval (ARI) in the context of the 'Planning System and Flood Risk Management Guidelines')

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## 7 Climate Change

It is generally acknowledged that future climate change will cumulate in decreases in summer rainfall amounts and increases in winter rainfall amounts. The levels or percentages of increase or decrease are still subjective and dependant on future studies and analysis.

The Greater Dublin Strategic Drainage Study (GDSDS) suggests that by the year 2100 summer rainfall depths will have decreased by 35-45%, with a corresponding increase in winter rainfall depths by 20%. The suggested increases in winter rainfall depth will inevitably result in higher catchment run-off and therefore greater flood peaks. It is therefore prudent to include a climate change factor in any estimation of flood peak volumes. In this instance a 20% increase in estimated flood peaks is provided for in this assessment.

Therefore, the estimated 100-year and 1000-year flood peaks flow derived in the above sections is increased to reflect the climate change factor: -

$$\Rightarrow Q_{100} = 42.41 \text{ m}^3/\text{s}$$

$$\Rightarrow \text{Design } Q_{100} = 42.41 \times 1.20 = \underline{50.89 \text{ m}^3/\text{s}}$$

$$\Rightarrow Q_{1000} = 53.38 \text{ m}^3/\text{s}$$

$$\Rightarrow \text{Design } Q_{1000} = 53.38 \times 1.20 = \underline{64.06 \text{ m}^3/\text{s}}$$

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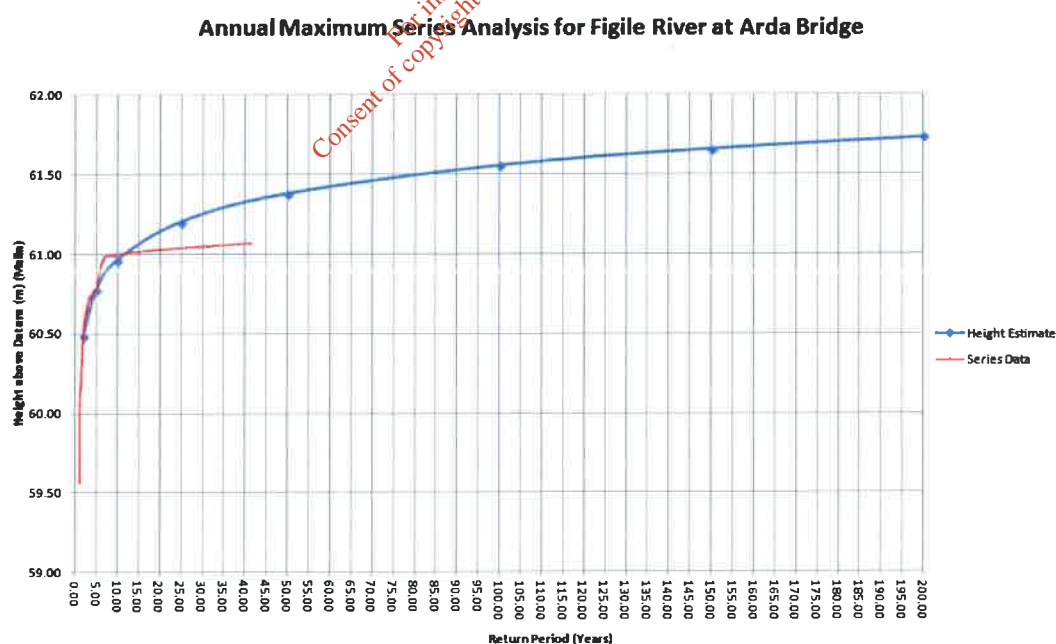


## 8 Arda Bridge Gauging Station Historical Data

Daily recorded water level data was obtained from the OPW hydrometric section for gauging Station No. 14017, located at Arda Bridge 0.37Km south of the proposed development site, for the years 1940-1972 (32 years).

### 8.1 Statistical Analysis

A flood frequency analysis was performed on the annual maxima hydrometric data by fitting an Extreme Value Type1 (EV1) distribution in accordance with the recommendation of the Flood Studies Report (NERC 1975). Since the EV1 distribution is a good descriptor of Irish Annual Maxima data, the major component of error in flood frequency estimates for this watercourse is likely due to sampling error, therefore the component of error due to wrong choice of distribution method is likely to be minimal. Figure 13 below illustrates the EV1 distribution for gauging Station No. 14017, Arda Bridge.



**Figure 13 – EV1 Statistical Analysis – Water Levels**

Based on the EV1 flood frequency analysis of the hydrometric data for gauging Station No. 14017, the calculated estimated water levels for different return periods are presented in *Table 5* below:

<i>Return Period (Years)</i>	<i>Reduced Variate (y)</i>	<i>Estimated Flood Level (mOD Malin)</i>
Mean Annual (1 in 2.3 years)	0.56	60.54
1 in 5 years	1.50	60.77
1 in 20 years	2.97	61.14
1 in 50 years	3.90	61.38
1 in 100 years	4.60	61.56
1 in 150 years	5.01	61.66
1 in 1000 years	6.97	62.14

**Table 5 – Estimated Flood Levels at Arda Bridge**

A water level within the proposed development site was marked during the peak of flooding that occurred between 16<sup>th</sup>-19<sup>th</sup> August 2008. When reduced to Ordnance Datum this water level was found to be approximately 61.61 mOD (Malin). As the gauging station at Arda Bridge is only 370m downstream of the existing piggery / proposed development site, the difference in peak flood levels between these two locations would be negligible. With reference to *Table 5* above the peak flood level which was recorded at the site in August 2008 can be approximated to a 1 in 100 year flood level.

*Drawing Number IE936-006-B, Appendix A*, illustrates the predicted 1 in 100 Year & 1 in 1000 Year flood levels relative to the proposed building structures at the site.

**Note on Estimated Flood Levels:-**

*The estimated flood levels illustrated in Table 5 above are based on a hydrometric data set of 32 years. It is generally recommended that statistical analysis of hydrometric data should not be extrapolated beyond 2 – 2.5 times the dataset period. The estimated flood volumes listed above have been extrapolated beyond 2.5 times the data set period and may differ somewhat from flood levels determined by alternative methods such as hydraulic modelling.*

## 9 Proposed Stormwater Management System

It is proposed to manage stormwater run-off from the proposed development via an adequately designed stormwater collection and attenuation system that has been designed in accordance with current Sustainable Drainage Guidelines and Codes of Practice and in accordance with current County Development Plan requirements. The proposed stormwater management layout is shown on *Drawing Number IE936-005-C, Appendix A*.

It is proposed to collect all roof and hardstanding area runoff generated by the proposed structures into a single concrete attenuation tank located along the west and south sides of the proposed facility. The tank will discharge attenuated flows to the Figile River via a drainage ditch, located to the south of the proposed structures, which flows eastward and discharges into the Figile River. Outflow to the Figile River will be controlled by a hydrobrake fitted to a manhole located downstream of the attenuation tank. As long term storage is not being provided for the proposed development, discharges will be limited to 2 l/s/ha.

The proposed attenuation tank system shall have a total internal footprint area of approximately 523m<sup>2</sup> and shall have an internal depth of 1.5m giving a total storage volume of 784.5m<sup>3</sup>.

All calculated flows have been increased by 10% to account for any infiltration/climate change.

A copy of the relevant design calculations for the stormwater management system are included in *Appendix C*.

## 10 Proposed Wastewater Management System

It is proposed to manage wastewater flows generated by staff at the proposed development by collecting all wastewater flows into a holding tank and transporting the volumes, via tanker, to an offsite location at regular intervals. A permitted contractor will be engaged to carry out the emptying and disposal of the tank.

From Table 3 of the EPA 'Wastewater Treatment Manual, Treatment Systems for Small Communities, Business, Leisure Centres and Hotels', staff working an 8 hour day will generate 60 l/d/person.

Taking a maximum staff occupancy of 8 persons, the daily flow was calculated as:

$$\Rightarrow \text{Daily Flow} = 8 \text{ persons} \times 60 \text{ l/d/person} = 480 \text{ l/d} = 0.48 \text{ m}^3/\text{d}$$

Assuming a tanker capacity of  $22.7 \text{ m}^3$ , effluent will need to be removed from site every 47.29 days.

It is proposed to construct an  $8 \text{ m} \times 4 \text{ m} \times 1.5 \text{ m}$  deep concrete storage tank, with an overall volume of  $48 \text{ m}^3$ , to cater for the onsite wastewater flows

The proposed wastewater management layout is shown on *Drawing Number IE936-005-C, Appendix A*.

## 11 Discussion

The screening assessment undertaken as part of this SSFRA does not indicate a significant flood risk at the existing piggery / proposed development site, however as discussed above the site was subject to some flood water inundation during the flood event of August 2008. As discussed in *Section 8* above it is indicated that flood levels recorded at the site in August 2008 may approximate to 1 in 100 year flood levels in the Figle River. It is also noted that during this flood event hardstanding access roads and parking area only were inundated, no buildings or structures within the piggery facility were inundated that this time.

*Drawing Number IE936-004-A, Appendix A*, illustrates delineated Flood Zones A, B and C within the boundary of the existing piggery / proposed development site – 1 in 100 year and 1 in 1000 year flood levels are based on the estimates derived from the statistical analysis presented in *Table 5* above.

In consideration of the proposed development, the majority of development works shall be restricted to within the footprint area of the existing structures and buildings. As no building or structures are proposed beyond the existing footprint area the proposed building and structures will not have an adverse impact on the hydrological regime of the area. The proposed buildings and structures shall have finished floor levels approximately 1.8m higher than existing floor levels, therefore proposed finished floor levels shall be approximately 1.3m – 0.7m above the estimated 1 in 100 year and 1 in 1000 year flood levels respectively and will therefore be adequately protected against any possible flood inundation.

Overall, the flood risk to the proposed development site is considered to be LOW. The proposed development works are not expected to have an adverse impact on the hydrological regime of the area.

## 12 Proposed Development in the Context of the Guidelines

In the context of the *'Planning System and Flood Risk Management Guidelines, DOEHLG, 2009'* three flood zones are designated in consideration of flood risk to a particular development site.

*Flood Zone 'A'* – where the probability of flooding from rivers and watercourses is the highest (greater than 1% or 1 in 100 year for river and watercourse flooding and 0.5% or 1 on 200 for coastal or tidal flooding).

*Flood Zone 'B'* – where the probability of flooding from rivers and watercourses is moderate (between 0.1% or 1 in 1000 year for river and watercourse flooding and 0.5% or 1 on 200 for coastal or tidal flooding).

*Flood Zone 'C'* – where the probability of flooding from rivers and watercourses is low or negligible (less than 0.1% of 1 in 1000 year for both river and watercourse and coastal flooding). *Flood Zone 'C'* covers all areas that are not in Zones 'A' or 'B'.

The *'Planning System and Flood Risk Management Guidelines'* list the planning implications for each flood zone, as summarised below:-

**Zone A – High Probability of Flooding.** Most types of development would not be considered in this zone unless the Justification Test is satisfied. Development in this zone should only be considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and where the *'Planning System and Flood Risk Management Guidelines'* justification test has been applied. Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space and outdoor sports and recreation would be considered appropriate in this zone.

**Zone B – Moderate Probability of Flooding.** Highly vulnerable development such as hospitals, residential care homes, Garda, fire and ambulance stations, dwelling houses, strategic transport and utilities infrastructure would generally be considered inappropriate in this zone, unless the requirements of the justification test can be met. Less vulnerable development such as retail, commercial and industrial uses and recreational facilities might be considered appropriate in this zone. In general however, less vulnerable development should only be considered in this zone if adequate lands or sites are not available in *Zone 'C'* and subject to a flood risk assessment to the appropriate level of detail to demonstrate that flood risk to the development can be adequately managed and that development in this zone will not adversely affect adjacent lands and properties.

**Zone C – Low to Negligible Probability of Flooding.** Development in this zone is appropriate from a flood risk perspective. Developments in this zone are generally not considered at risk of fluvial flooding and would not adversely affect adjacent lands and properties from a flood risk perspective.

### 13 Justification Test for Development Management

The proposed development works shall comprise the upgrading and modernisation of building and structures, which shall be located within the footprint area of the existing buildings and structures at the site. In the context of the '*Planning System and Flood Risk Management Guidelines, DOEHLG, 2009*' allowance for such development proposals can be interpreted to be made under Clause 5.28 of the guidelines, which states that alterations and additions to existing commercial and industrial development are not subject to the sequential approach and therefore the Justification Test does not apply. As the proposed building and structures will be located within the footprint area of the existing piggery facility it is considered that the Justification Test does not apply in this instance.

However, in accordance with Clause 5.28 of the Guidelines, a commensurate assessment of flood risk in respect of the proposed development works has been undertaken. In this regard the critical flood risk consideration is that the proposed development works shall be undertaken within the footprint area of the existing structure and shall not entail any development within the existing floodplain of the River Figile. Therefore the proposed development shall not result in an adverse impact to the hydrological regime of the area and shall not impede access to the watercourse, floodplain or any flood protection and management facilities. In respect of access and egress to the site during a flood event, the proposed development shall not result in an increase in extreme flood levels in consideration of the existing hydrological regime and the proposed development shall not introduce additional personnel to a flood risk area. During a 1 in 100 year flood event potential flood water depths are not expected to exceed approximately 0.5m above existing ground and access road levels, therefore access to the site via agricultural vehicles is not expected to be a problem. Due to the maximum number of employees who may be present at the site at any one time (approx 6-8) it is not envisaged that emergency vehicles would be required to access the site during a significant flood.



## 14 Summary Conclusions

In consideration of the findings of this site specific flood risk assessment analysis the following conclusions are made in respect of the proposed development site:-

- A site specific flood risk assessment in accordance with 'The Planning System and Flood Risk Management Guidelines – DoEHLG-2009' has been undertaken for the proposed development site.
- It is proposed to replace existing buildings and structures at the piggery facility with modern structures designed to comply with current Department of Agriculture regulations and specifications. The replacement buildings and structures shall be constructed within the same footprint area as the existing buildings and structures.
- A hydrological analysis, based on the OPW Flood Studies Update Methodology, has been undertaken in order to predict estimated 1 in 100 year and 1 in 1000 year flood flows in the Figile River channel along the reach in the vicinity of the proposed development site.
- In lieu of any detailed hydraulic modelling of the River Figile, a statistical analysis of gauging station data from 1940 – 1972 has been undertaken to provide an estimate of extreme flood levels at the proposed development site. The 1 in 100 year and 1 in 1000 year flood levels at the site are estimated as 61.56m OD and 62.14m OD respectively.
- During the operational life of the existing piggery facility (c. 20-25 years) the site is known to have been subject to limited flood inundation once, i.e. during the significant flood events of August 2008. During this period a flood level equating to the approximate 1 in 100 year River Figile flood level was recorded at the site.
- The proposed replacement buildings and structures shall have constructed finished floor levels approximately 1.8m above existing floor levels. Proposed finished floor levels shall therefore be constructed approximately 1.3m – 0.7m above estimated 1 in 100 year and 1 in 1000 year flood levels in the River Figile and will therefore not be at risk of flood inundation.
- As the proposed development shall be constructed within the footprint area of the existing buildings and structures the proposed replacement buildings and structures are not subject to the Justification Test as per 'The Planning System and Flood Risk Management Guidelines'.
- In accordance with Clause 5.28 of the Guidelines, a commensurate assessment of flood risk has also been undertaken. This assessment had determined that the proposed development shall not have an adverse impact to the hydrological regime of the area, shall not impede access to the watercourse and floodplain and shall not adversely impact

*access to or egress from the site greater than the current situation. The proposed development shall not introduce additional persons to a flood risk area.*

- The proposed development shall incorporate an appropriately designed stormwater management system and attenuation lagoon.*
- Overall, the flood risk to the proposed development is considered to be LOW. The proposed development works are not expected to have an adverse impact on the hydrological regime of the area and are therefore considered appropriate from a flood risk perspective.*

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## **APPENDIX A**

***Drawing No. IE936-001-A***

***Drawing No. IE936-002-A***

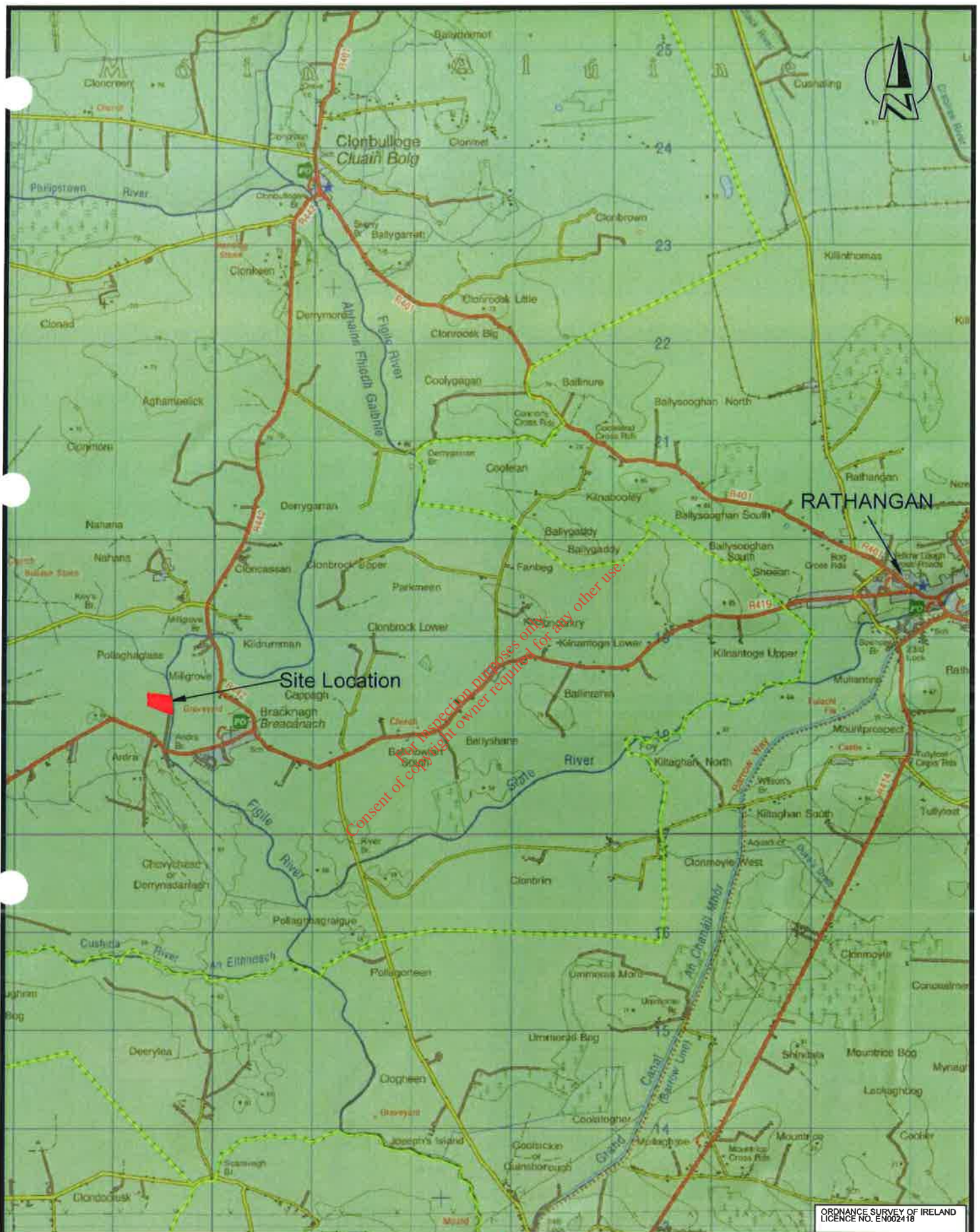
***Drawing No. IE936-003-B***

***Drawing No. IE936-004-A***

***Drawing No. IE936-005-C***

***Drawing No. IE936-006-B***

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ORDNANCE SURVEY OF IRELAND  
LICENCE NO. EN002418

IE Consulting  
Innovation Centre,  
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Carlow.  
Ph: 059-9133084  
Fax: 059-9140499  
E-mail: info@iece.ie



<b>Project Title:</b>		IE936 - Planning Application				
<b>Project Address:</b>		Bracknagh, Co. Offaly				
<b>Client:</b>		CLW Environmental				
<b>Drg. Title:</b>		Site Location Map				
<b>Dwg.Scale:</b>	<b>Date:</b>	<b>Dwg.No:</b>	<b>Job No:</b>	<b>Revision:</b>	<b>Dwg.By:</b>	
1/50,000	26/09/14	IE936-001	IE936	A	LM	

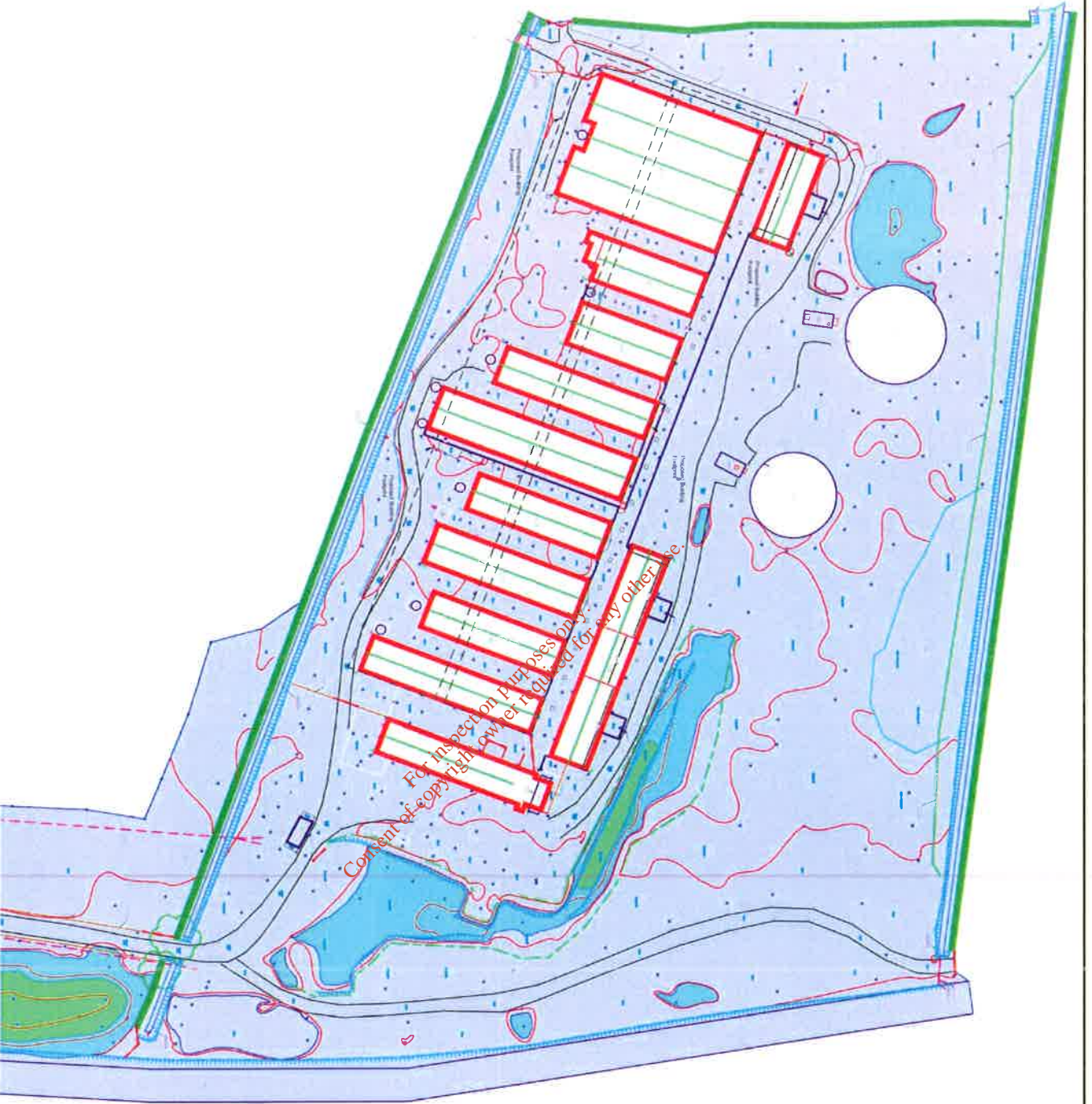








FLOOD ZONE DELINEATION  
SCALE 1:1000



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- NOTES:-
- LEGEND
- Delineated 1 in 100 Flood Level (Flood Zone A)
  - Delineated 1 in 100 Flood Level (Flood Zone B)
  - Delineated 1 in 100 Flood Level (Flood Zone C)
  - Delineated 1 in 100 Flood Level (Flood Zone D)
  - Delineated 1 in 100 Flood Level (Flood Zone E)
  - Delineated 1 in 100 Flood Level (Flood Zone F)
  - Delineated 1 in 100 Flood Level (Flood Zone G)
  - Delineated 1 in 100 Flood Level (Flood Zone H)
  - Delineated 1 in 100 Flood Level (Flood Zone I)
  - Delineated 1 in 100 Flood Level (Flood Zone J)
  - Delineated 1 in 100 Flood Level (Flood Zone K)
  - Delineated 1 in 100 Flood Level (Flood Zone L)
  - Delineated 1 in 100 Flood Level (Flood Zone M)
  - Delineated 1 in 100 Flood Level (Flood Zone N)
  - Delineated 1 in 100 Flood Level (Flood Zone O)
  - Delineated 1 in 100 Flood Level (Flood Zone P)
  - Delineated 1 in 100 Flood Level (Flood Zone Q)
  - Delineated 1 in 100 Flood Level (Flood Zone R)
  - Delineated 1 in 100 Flood Level (Flood Zone S)
  - Delineated 1 in 100 Flood Level (Flood Zone T)
  - Delineated 1 in 100 Flood Level (Flood Zone U)
  - Delineated 1 in 100 Flood Level (Flood Zone V)
  - Delineated 1 in 100 Flood Level (Flood Zone W)
  - Delineated 1 in 100 Flood Level (Flood Zone X)
  - Delineated 1 in 100 Flood Level (Flood Zone Y)
  - Delineated 1 in 100 Flood Level (Flood Zone Z)

NO.	DATE	DESCRIPTION	BY	CHKD
1	12/12/14	FOR INSPECTION PURPOSES ONLY		

CLW Environmental

Development at Brocknagh,  
Co. Offaly.

Flood Zone Delineation



PREPARED BY: CLW Environmental  
CHECKED BY: CLW Environmental  
DATE: 12/12/14

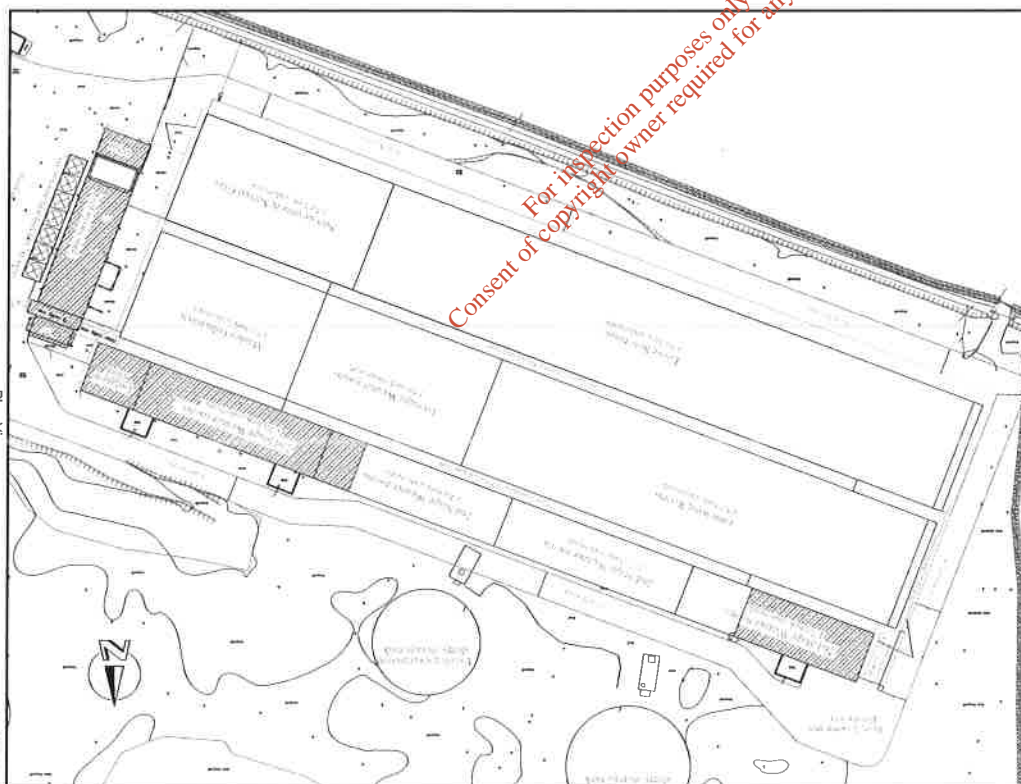
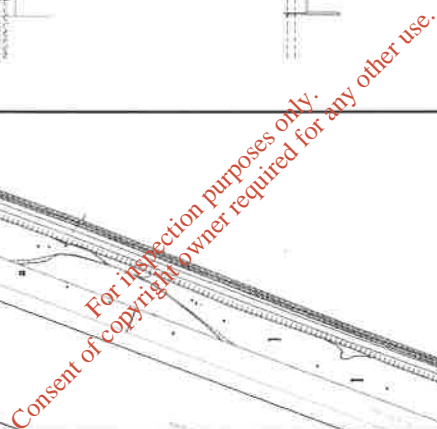
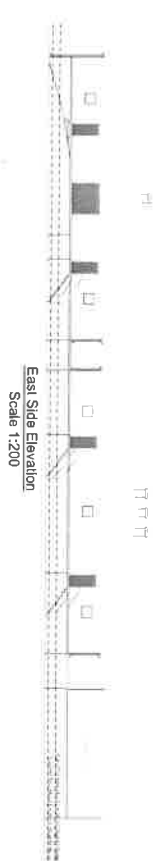
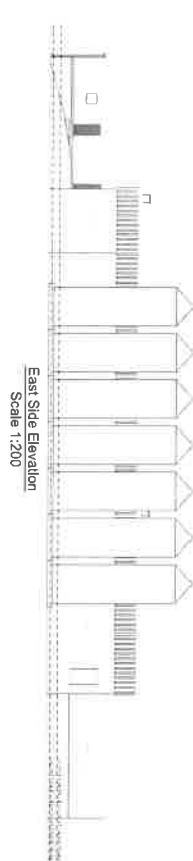
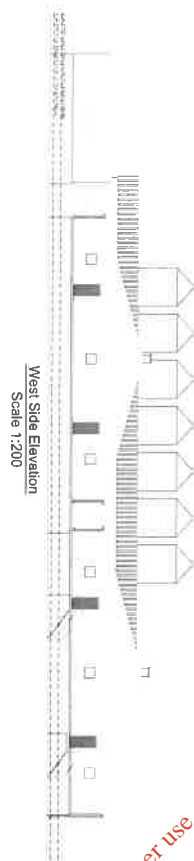
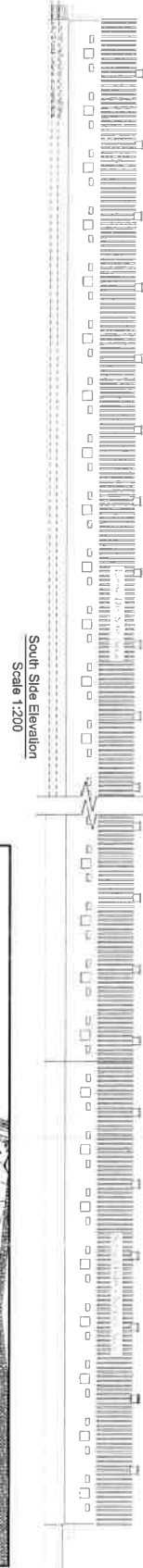
PROJECT NO: IE936-004  
PROJECT NAME: Development at Brocknagh, Co. Offaly

DATE: 12/12/14  
SCALE: 1:1000



EPA Export 14-12-2015:17:37:46





NOTES:

REV	DATE	DESCRIPTION	DATE	TIME
1	01/14/14	ATTENTION: GROSS UPDATED		
2	10/16/14	ROUTED TO CLIENT		

CLW Environmental

Development at Bracknagh,  
Co. Offaly.

Estimated 100 & 1000 year Flood Levels  
Flood Levels on Site



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drawing status: **PLANNING**

IE936-006

4) If Consulting the company or its contacts might not be approached by any persons other than personnel who are to be used only for the purpose for which it is applied.

## **APPENDIX B**

### ***Flood Studies Update Calculations***

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# Flood Estimation Report #990 (Figile River)



Generated 09-10-2014 16:01

## Subject site

### Attributes

Name	Unit	Value
Coordinate [X]		-791372.003804118
Coordinate [Y]		7021963.2259686
Distance	km	4.11278592287637
Station Number		14_1816_2
Location		
Water Body		
Catchment		
Hydrometric Area		
Organisation		
FSU Rating Classification		
Drainage works	year	
Contributing Catchment Area	km^2	291.421
Center Northing	m	226210
Center Easting	m	258350
Northing	m	218087
Easting	m	259578
A-Max series gap in years	year	
A-Max series number of years	year	
A-Max series number of usable years	year	
A-Max series end year	year	
A-Max series start year	year	
FARL		0.999
ALLUV		0.025
PEAT		0.3617
FOREST		0.0904
PASTURE		0.5266
S1085	m/km	0.55453
MSL	km	33.532
DRAIND	km/km^2	0.62
ALTBAR		78.9
NETLEN	km	180.628
T4		
T3		

SAAPE	mm	508.15
T2		
ARTDRAIN2		0
ARTDRAIN		0.008
TAYSLO		0.175599
STMFRQ		127
BFISOIL		0.542756928
SAAR	mm	839.65
RWSEG_CD		14_1816
TOP_RWSEG		
Bankfull		
HGF	m^3/s	
MAF	m^3/s	
FAI		0.2536
FLATWET		0.59
URBEXT		0.0027
HGF/QMED		
centroidx3857		-794746.269716044
centroidy3857		7036463.94095698
x3857		-791372.003804118
3857		7021963.2259686

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# Pivotal site

.ttributes

Name	Unit	Value
Coordinate [X]		-787092.9740666
Coordinate [Y]		7010035.54938934
Station Number		14006
Location		PASS BR
Water Body		BARROW
Catchment		Barrow
Hydrometric Area		14
Organisation		OPW
FSU Rating Classification		A1
Drainage works	year	No
Contributing Catchment Area	km^2	1063.5924
Center Northing	m	211810
Center Easting	m	257050
Northing	m	210973
Easting	m	262239
A-Max series gap in years	year	0
A-Max series number of years	year	51
A-Max series number of usable years	year	51
A-Max series end year	year	2004
A-Max series start year	year	1954
FARL		1
ALLUV		0.0398
PEAT		0.1868
FOREST		0.1131
PASTURE		0
S1085	m/km	3.05271
MSL	km	52.713
DRAIN	km/km^2	0.687
ALTBAR		0
NETLEN	km	730.513
T4		0.21201976104906
T3		0.23769749228769
JAPE	mm	507.09
T2		0.10576012078147
ARTDRAIN2		0
ARTDRAIN		0.0048
TAYSLO		0.234497
STMFRQ		668
BFISOIL		0.5712
SAAR	mm	899.07
RWSEG_CD		14_1611
TOP_RWSEG		14_511
Bankfull		3.42 from survey
HGF	m^3/s	106
MAF	m^3/s	81
FAI		0.32
FLATWET		0.58
URBEXT		0.0171
HGF/QMED		1.3164431197218
3857		-787092.9740666
y3857		7010035.54938934

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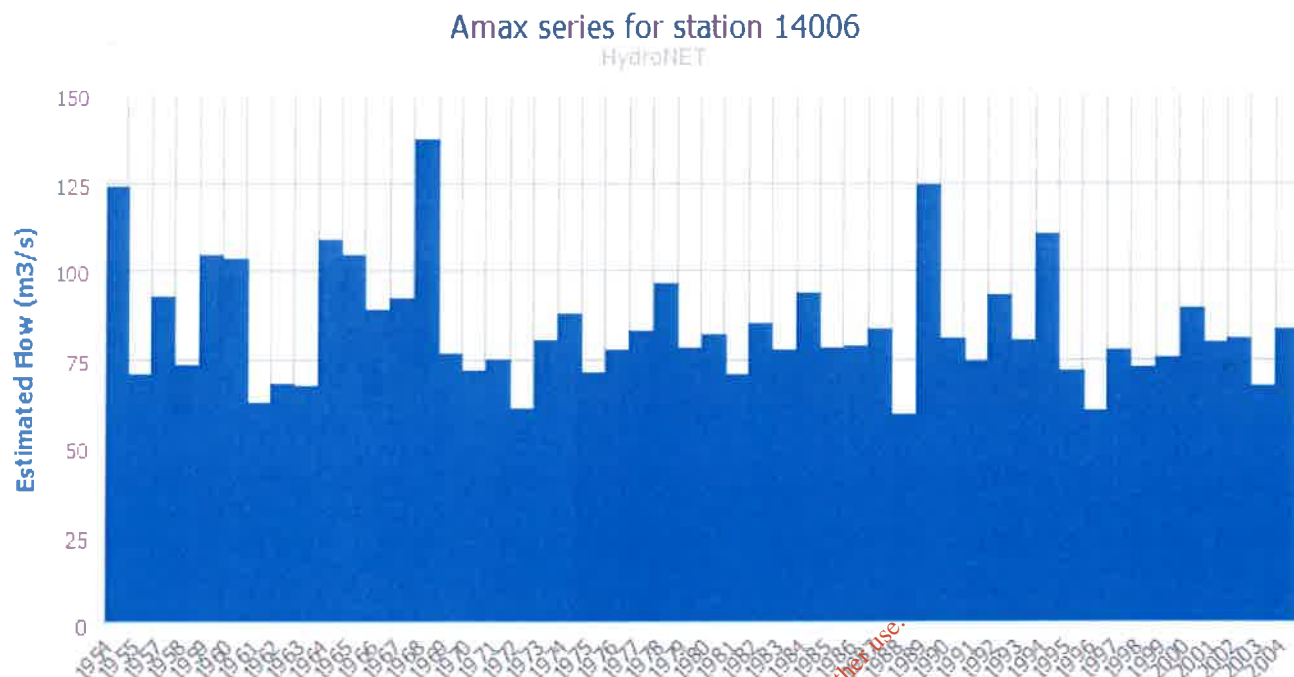
centroidx3857		-798881.731499134
centroidy3857		7019035.74685658
Distance	km	17.9121186284761

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Map



## Amax Series Chart



## QMED Estimates

Subject rural QMED	22.19
Subject urban QMED	22.27
Pivotal gauged QMED	80.26
Pivotal adjustment factor QMED	0.71
Subject adjusted QMED	15.74

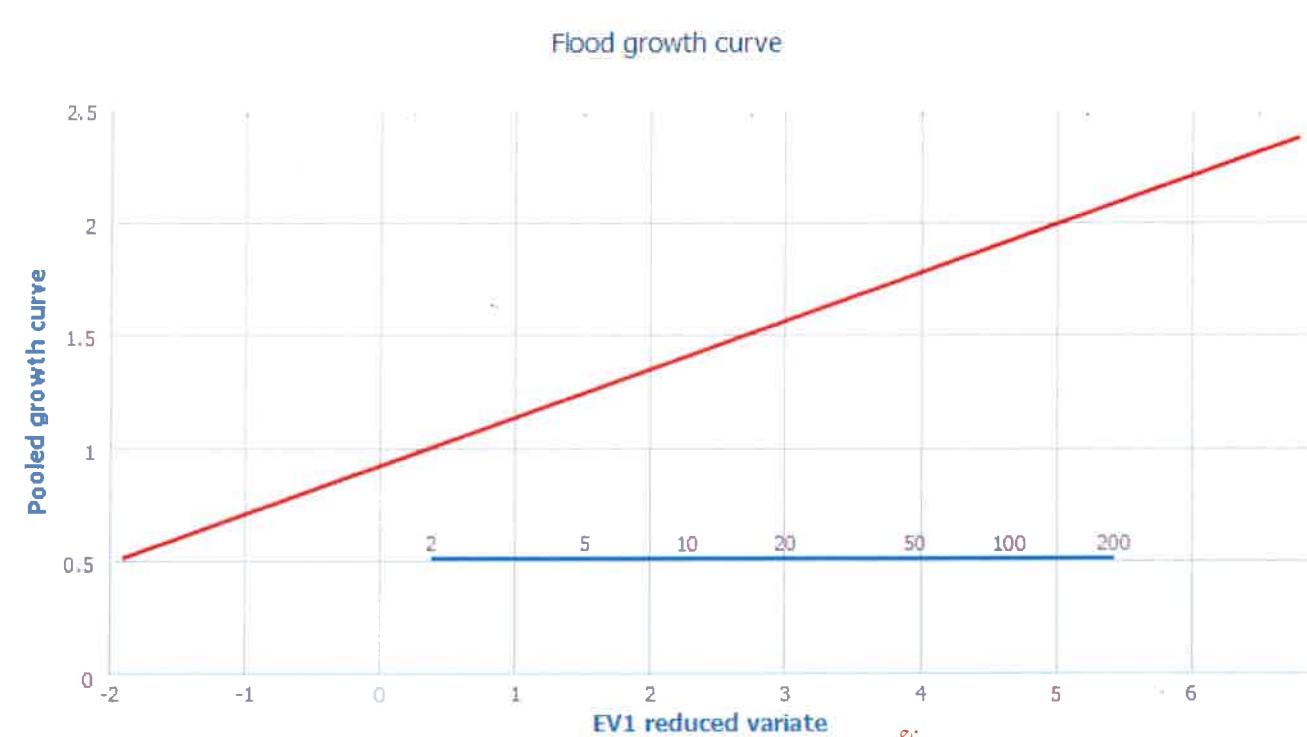
## Pooling Group

Station	Amax years
14004 CLONBULLOGE	47
08011 DULEEK D/S	23
09001 LEIXLIP	25
06013 CHARLEVILLE	30
24002 GRAYS BR.	32
14011 RATHANGAN	25
16004 THURLES	48
07006 FYANSTOWN	19
15001 ANNAMULT	42
25021 CROGHAN	44

06025 BURLEY	30
25016 RAHAN	48
76019 MULLAGH	51
,1001 BOLEANY	33

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Selected Flood Growth Curve



Pooled growth curve	EV1 reduced variate
0.51	-1.92
0.55	-1.75
0.57	-1.66
0.58	-1.6
0.59	-1.55
0.6	-1.5
0.61	-1.47
0.62	-1.43
0.62	-1.4
0.63	-1.37
0.63	-1.35
0.64	-1.32
0.64	-1.3
0.65	-1.28
0.65	-1.26
0.66	-1.24
0.66	-1.22
0.66	-1.21
0.67	-1.19
0.67	-1.17
0.67	-1.16
0.68	-1.14
0.68	-1.13
0.68	-1.11
0.69	-1.1
0.69	-1.09
0.69	-1.07
0.69	-1.06
0.7	-1.05



0.7	-1.04
0.7	-1.03
0.71	-1.01
0.71	-1
0.71	-0.99
0.71	-0.98
0.71	-0.97
0.72	-0.96
0.72	-0.95
0.72	-0.94
0.72	-0.93
0.73	-0.92
0.73	-0.91
0.73	-0.9
0.73	-0.89
0.73	-0.88
0.74	-0.87
0.74	-0.86
0.74	-0.85
0.74	-0.84
0.74	-0.84
0.75	-0.83
0.75	-0.82
0.75	-0.81
0.75	-0.8
0.75	-0.79
0.75	-0.78
0.76	-0.78
0.76	-0.77
0.76	-0.76
0.76	-0.75
0.76	-0.74
0.76	-0.74
0.77	-0.73
0.77	-0.72
0.77	-0.71
0.77	-0.71
0.77	-0.7
0.77	-0.69
0.78	-0.68
0.78	-0.68
0.78	-0.67
0.78	-0.66
0.78	-0.65
0.78	-0.65
0.78	-0.64
0.79	-0.63
0.79	-0.63
0.79	-0.62
0.79	-0.61
0.79	-0.61
0.79	-0.6
0.8	-0.59
0.8	-0.59
0.8	-0.58
0.8	-0.57
0.8	-0.57

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0.8	-0.56
0.8	-0.55
0.81	-0.55
0.81	-0.54
0.81	-0.53
0.81	-0.53
0.81	-0.52
0.81	-0.51
0.81	-0.51
0.81	-0.5
0.82	-0.49
0.82	-0.49
0.82	-0.48
0.82	-0.48
0.82	-0.47
0.82	-0.46
0.82	-0.46
0.83	-0.45
0.83	-0.44
0.83	-0.44
0.83	-0.43
0.83	-0.43
0.83	-0.42
0.83	-0.41
0.83	-0.41
0.84	-0.4
0.84	-0.4
0.84	-0.39
0.84	-0.38
0.84	-0.38
0.84	-0.37
0.84	-0.37
0.84	-0.36
0.85	-0.35
0.85	-0.35
0.85	-0.34
0.85	-0.34
0.85	-0.33
0.85	-0.33
0.85	-0.32
0.85	-0.31
0.86	-0.31
0.86	-0.3
0.86	-0.3
0.86	-0.29
0.86	-0.28
0.86	-0.28
0.86	-0.27
0.86	-0.27
0.87	-0.26
0.87	-0.26
0.87	-0.25
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0.87	-0.24
0.87	-0.23
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0.87	-0.22

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0.88	-0.21
0.88	-0.2
0.88	-0.19
0.88	-0.19
0.88	-0.18
0.88	-0.18
0.88	-0.17
0.89	-0.17
0.89	-0.16
0.89	-0.16
0.89	-0.15
0.89	-0.14
0.89	-0.14
0.89	-0.13
0.89	-0.13
0.9	-0.12
0.9	-0.12
0.9	-0.11
0.9	-0.11
0.9	-0.1
0.9	-0.09
0.9	-0.09
0.9	-0.08
0.9	-0.08
0.91	-0.07
0.91	-0.07
0.91	-0.06
0.91	-0.06
0.91	-0.05
0.91	-0.05
0.91	-0.04
0.91	-0.03
0.92	-0.03
0.92	-0.02
0.92	-0.02
0.92	-0.01
0.92	-0.01
0.92	0
0.92	0
0.92	0.01
0.92	0.01
0.93	0.02
0.93	0.03
0.93	0.03
0.93	0.04
0.93	0.04
0.93	0.05
0.93	0.05
0.93	0.06
0.94	0.06
0.94	0.07
0.94	0.07
0.94	0.08
0.94	0.09
0.94	0.09

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0.94	0.1
0.94	0.1
0.94	0.11
0.95	0.11
0.95	0.12
0.95	0.12
0.95	0.13
0.95	0.14
0.95	0.14
0.95	0.15
0.95	0.15
0.96	0.16
0.96	0.16
0.96	0.17
0.96	0.17
0.96	0.18
0.96	0.19
0.96	0.19
0.96	0.2
0.96	0.2
0.97	0.21
0.97	0.21
0.97	0.22
0.97	0.22
0.97	0.23
0.97	0.24
0.97	0.24
0.97	0.25
0.98	0.25
0.98	0.26
0.98	0.26
0.98	0.27
0.98	0.27
0.98	0.28
0.98	0.29
0.98	0.29
0.99	0.3
0.99	0.3
0.99	0.31
0.99	0.31
0.99	0.32
0.99	0.33
0.99	0.33
0.99	0.34
1	0.34
1	0.35
1	0.35
1	0.36
1	0.37
1	0.37
1	0.38
1	0.38
1	0.39
1.01	0.4
1.01	0.4
1.01	0.41
1.01	0.41

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1.01	0.43
1.01	0.43
1.02	0.44
1.02	0.44
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1.03	0.5
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1.03	0.52
1.03	0.53
1.04	0.53
1.04	0.54
1.04	0.55
1.04	0.55
1.04	0.56
1.04	0.56
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1.05	0.58
1.05	0.58
1.05	0.59
1.05	0.6
1.05	0.6
1.05	0.61
1.05	0.62
1.05	0.62
1.06	0.63
1.06	0.63
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1.06	0.65
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1.06	0.67
1.07	0.67
1.07	0.68
1.07	0.69
1.07	0.69
1.07	0.7
1.07	0.71
1.07	0.71
1.08	0.72
1.08	0.73
1.08	0.73
1.08	0.74
1.08	0.75
1.08	0.75
1.08	0.76
1.09	0.77
1.09	0.77

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1.09	0.78
1.09	0.79
1.09	0.8
1.09	0.8
1.09	0.81
1.1	0.82
1.1	0.82
1.1	0.83
1.1	0.84
1.1	0.85
1.1	0.85
1.11	0.86
1.11	0.87
1.11	0.87
1.11	0.88
1.11	0.89
1.11	0.9
1.11	0.9
1.12	0.91
1.12	0.92
1.12	0.93
1.12	0.93
1.12	0.94
1.12	0.95
1.13	0.96
1.13	0.96
1.13	0.97
1.13	0.98
1.13	0.99
1.13	1
1.14	1
1.14	1.01
1.14	1.02
1.14	1.03
1.14	1.04
1.14	1.04
1.15	1.05
1.15	1.06
1.15	1.07
1.15	1.08
1.15	1.08
1.16	1.09
1.16	1.1
1.16	1.11
1.16	1.12
1.16	1.13
1.16	1.14
1.17	1.14
1.17	1.15
1.17	1.16
1.17	1.17
1.17	1.18
1.18	1.19
1.18	1.2
1.18	1.21
1.18	1.22
1.18	1.22

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1.19	1.23
1.19	1.24
1.19	1.25
1.19	1.26
1.19	1.27
1.2	1.28
1.2	1.29
1.2	1.3
1.2	1.31
1.2	1.32
1.21	1.33
1.21	1.34
1.21	1.35
1.21	1.36
1.21	1.37
1.22	1.38
1.22	1.39
1.22	1.4
1.22	1.41
1.23	1.42
1.23	1.43
1.23	1.44
1.23	1.45
1.23	1.47
1.24	1.48
1.24	1.49
1.24	1.5
1.24	1.51
1.25	1.52
1.25	1.53
1.25	1.54
1.25	1.56
1.26	1.57
1.26	1.58
1.26	1.59
1.26	1.6
1.27	1.62
1.27	1.63
1.27	1.64
1.27	1.65
1.28	1.67
1.28	1.68
1.28	1.69
1.29	1.71
1.29	1.72
1.29	1.73
1.29	1.75
1.3	1.76
1.3	1.77
1.3	1.79
1.31	1.8
1.31	1.82
1.31	1.83
1.32	1.85
1.32	1.86
1.32	1.88
1.33	1.89

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1.33	1.91
1.33	1.92
1.34	1.94
1.34	1.96
1.34	1.97
1.35	1.99
1.35	2.01
1.35	2.02
1.36	2.04
1.36	2.06
1.37	2.08
1.37	2.1
1.37	2.11
1.38	2.13
1.38	2.15
1.39	2.17
1.39	2.19
1.39	2.21
1.4	2.23
1.4	2.25
1.41	2.28
1.41	2.3
1.42	2.32
1.42	2.34
1.43	2.37
1.43	2.39
1.44	2.41
1.44	2.44
1.45	2.46
1.45	2.49
1.46	2.52
1.46	2.54
1.47	2.57
1.48	2.6
1.48	2.63
1.49	2.66
1.5	2.69
1.5	2.72
1.51	2.76
1.52	2.79
1.53	2.83
1.53	2.86
1.54	2.9
1.55	2.94
1.56	2.98
1.57	3.03
1.58	3.07
1.59	3.12
1.6	3.16
1.61	3.22
1.62	3.27
1.63	3.33
1.64	3.38
1.66	3.45
1.67	3.52
1.69	3.59
1.7	3.67

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1.72	3.75
1.74	3.84
1.76	3.94
1.79	4.05
1.81	4.18
1.84	4.32
1.88	4.49
1.92	4.69
1.98	4.94
2.05	5.27
2.15	5.76
2.37	6.79

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## Adopted Growth Factors

Return Period	Growth Factor	Design Peak Flow (m <sup>3</sup> /s)
1.3	0.84	18.71
2	1	22.27
5	1.24	27.62
10	1.4	31.18
20	1.56	34.75
30	1.64	36.53
50	1.75	38.98
100	1.9	42.32
200	2.05	45.66
500	2.25	50.12
1000	2.4	53.46

## Hydrograph Width Estimation Summary

Hydrograph summary is not available for this report because the hydrograph was not transferred to the subject site.

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## Hydrograph Plots

Hydrographs are not available for this report because module 3 was not finished.

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## IBIDEM Plots and Tables

10 IBIDEM plots were saved by the user.

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# Audit Trail Report #990 (Figile River)



**OPW**

The Office of Public Works  
Oifig na nOibreacha Poiblí

User ID:	loganlachlan@gmail.com
Name:	McMillan, Logan
Company:	ie Consulting
Address:	
Report date & time:	09-10-2014 16:01
Start of Calculation:	29-09-2014 19:16

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## Decisions made by the user:

Decision	User comment	System information	Date
2.1 Subject site accepted	N/A	Location 14_1816_2	29-09-2014 19:18
2.4 Pivotal site accepted	Reason for accepting: Downstream of Subject Site Reason for ignoring warnings:	Station: 14006 PASS BR The user has been notified that 25 candidates where either hydrologically or geographically closer to the subject site than the chosen pivotal site. The user has accepted to reject these sites in preference of the chosen pivotal site.	29-09-2014 19:19
2.8 QMED data transfer performed	More Conservative Estimate by disregarding adjustment factor (0.7066)	Warning: you are disallowing the pivotal site from playing a part in QMED estimation at the subject site. Please provide a reason for this choice.	29-09-2014 19:22

2.11 Pooling group accepted	N/A	Pooled group accepted with the following stations: [14004, 08011, 09001, 06013, 24002, 14011, 16004, 07006, 15001, 25021, 06025, 25016, 26019, 11001] and distribution: EV1	29-09-2014 19:22
2.13 Module 2 finalized	N/A	Finished pooled analysis with the following distribution selected: EV1.	29-09-2014 19:23

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## **APPENDIX C**

### **Stormwater Management Calculations**

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## Summary of Results for 100 year Return Period (+10%)

Storm Duration (mins)	Maximum Control (l/s)	Maximum Overflow (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Overflow Volume (m³)	Maximum Volume (m³)	Status
15 Summer	0.9	0.0	0.9	0.3087	0.3087	0.0	161.4	O K
30 Summer	1.0	0.0	1.0	0.4172	0.4172	0.0	218.2	O K
60 Summer	1.1	0.0	1.1	0.5277	0.5277	0.0	276.0	O K
120 Summer	1.2	0.0	1.2	0.6493	0.6493	0.0	339.4	O K
180 Summer	1.3	0.0	1.3	0.7243	0.7243	0.0	378.9	O K
240 Summer	1.3	0.0	1.3	0.7803	0.7803	0.0	408.2	O K
360 Summer	1.4	0.0	1.4	0.8613	0.8613	0.0	450.5	O K
480 Summer	1.5	0.0	1.5	0.9198	0.9198	0.0	480.9	O K
600 Summer	1.5	0.0	1.5	0.9643	0.9643	0.0	504.4	O K
720 Summer	1.5	0.0	1.5	1.0008	1.0008	0.0	523.3	O K
960 Summer	1.6	0.0	1.6	1.0553	1.0553	0.0	551.9	O K
1440 Summer	1.6	0.0	1.6	1.1233	1.1233	0.0	587.3	O K
2160 Summer	1.6	0.0	1.6	1.1718	1.1718	0.0	612.7	O K
2880 Summer	1.7	0.0	1.7	1.1873	1.1873	0.0	621.0	O K
4320 Summer	1.7	0.0	1.7	1.1968	1.1968	0.0	625.8	O K
5760 Summer	1.7	0.0	1.7	1.1913	1.1913	0.0	623.1	O K
7200 Summer	1.6	0.0	1.6	1.1783	1.1783	0.0	616.2	O K
8640 Summer	1.6	0.0	1.6	1.1603	1.1603	0.0	606.8	O K
10080 Summer	1.6	0.0	1.6	1.1403	1.1403	0.0	596.4	O K
15 Winter	0.9	0.0	0.9	0.3457	0.3457	0.0	180.8	O K
30 Winter	1.0	0.0	1.0	0.4677	0.4677	0.0	244.5	O K
60 Winter	1.2	0.0	1.2	0.5918	0.5918	0.0	309.4	O K
120 Winter	1.3	0.0	1.3	0.7278	0.7278	0.0	380.7	O K
180 Winter	1.4	0.0	1.4	0.8128	0.8128	0.0	425.1	O K
240 Winter	1.4	0.0	1.4	0.8763	0.8763	0.0	458.3	O K
360 Winter	1.5	0.0	1.5	0.9683	0.9683	0.0	506.3	O K
480 Winter	1.5	0.0	1.5	1.0348	1.0348	0.0	541.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	84.74	19
30 Summer	57.41	34
60 Summer	36.46	64
120 Summer	22.59	124
180 Summer	16.93	184
240 Summer	13.78	244
360 Summer	10.27	364
480 Summer	8.33	482
600 Summer	7.08	602
720 Summer	6.19	722
960 Summer	5.01	962
1440 Summer	3.72	1442
2160 Summer	2.76	2160
2880 Summer	2.23	2736
4320 Summer	1.65	3412
5760 Summer	1.34	4160
7200 Summer	1.13	4976
8640 Summer	0.99	5872
10080 Summer	0.88	6656
15 Winter	84.74	19
30 Winter	57.41	34
60 Winter	36.46	64
120 Winter	22.59	122
180 Winter	16.93	182
240 Winter	13.78	242
360 Winter	10.27	360
480 Winter	8.33	478



### Summary of Results for 100 year Return Period (+10%)

Storm Duration (mins)	Maximum Control (l/s)	Maximum Overflow (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Overflow Volume (m³)	Maximum Volume (m³)	Status
600 Winter	1.6	0.0	1.6	1.0863	1.0863	0.0	568.2	O K
720 Winter	1.6	0.0	1.6	1.1283	1.1283	0.0	590.0	O K
960 Winter	1.7	0.0	1.7	1.1923	1.1923	0.0	623.5	O K
1440 Winter	1.7	0.0	1.7	1.2743	1.2743	0.0	666.4	O K
2160 Winter	1.8	0.0	1.8	1.3387	1.3387	0.0	700.2	O K
2880 Winter	1.8	0.0	1.8	1.3662	1.3662	0.0	714.7	O K
4320 Winter	1.8	0.0	1.8	1.3702	1.3702	0.0	716.7	O K
5760 Winter	1.8	0.0	1.8	1.3637	1.3637	0.0	713.3	O K
7200 Winter	1.8	0.0	1.8	1.3442	1.3442	0.0	703.1	O K
8640 Winter	1.7	0.0	1.7	1.3173	1.3173	0.0	688.9	O K
10080 Winter	1.7	0.0	1.7	1.2863	1.2863	0.0	672.7	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
600 Winter	7.08	596
720 Winter	6.19	714
960 Winter	5.01	944
1440 Winter	3.72	1412
2160 Winter	2.76	2092
2880 Winter	2.03	2740
4320 Winter	1.55	3584
5760 Winter	1.34	4432
7200 Winter	1.13	5336
8640 Winter	0.99	6304
10080 Winter	0.88	7168

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Storm Duration 4320 Mins (Summer)

