Michael Hanley
Knockdromin
Croagh
Newcastle West
Co. Limerick
Eircode: V94 Y9K2

April 2021
Planning Ref: 20/1138

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ENVIRONMENTAL IMPACT ASSESSMENT

REPORT
(EIAR)

April 2021
Prepared by:

QFT IRELAND
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CO. LIMERICK

NON-TECHNICAL SUMMARY

The Environmental Impact Assessment Report (EIAR) has been prepared by QFT Ireland Ltd EHS Consultants on behalf of Michael Hanley, Knockdromin, Croagh Co. Limerick in respect of the proposed extension development of 1 No. poultry house together with all ancillary structures and associated site works adjacent to an existing poultry house on his farm in Knockdromin, Croagh Co. Limerick. The E.I.A.R. has been prepared by Keith Massey B. Env.Sc (Hons) SIIRSM with the assistance of persons and bodies referred to hereafter.

The E.I.A.R. has been completed in accordance with the Planning and Development Act 2000 (as amended), Planning and Development Regulations 2001 – 2015 (as amended) and the Protection of Environment Act 2003 (as amended).

The existing poultry house operated by the applicants is located on his poultry farm adjacent to his dwelling in a rural area in West Limerick. The poultry farm has been operated by the applicants since 1988. The existing poultry houses were built in 1987 and 2017 respectively and have been in operation since 1988. The proposed development will be located adjacent to the existing house previously approved by Limerick City & County Council for the development of 2 No. poultry houses (planning refs.8728022, 16/515) and will access onto the adjoining L8025 via an existing entrance.

The proposed development of 1 No. free-range house will be completed within a low set area of the existing landholding, well screened by the land topography and existing hedgerows / trees etc. which are to remain, so as to minimise any potential visual impact from same. The capacity of the farm upon completion of the proposed development will be 53'400 birds exceeding the threshold required for the preparation of an Environmental Impact Assessment Report as per S.I. 600 of 2001 (Planning and Development Regulations 2001), Schedule 5 Part 2 1 (e) (i) as follows:
"Installations for intensive rearing of poultry not included in Part 1 of the Schedule which would have more than 40'000 places for poultry".

As all manure is to be moved off-site by a registered contractor in line with the requirements of S.I. 605 of 2017. The additional structures and site works required as part of the proposed development will include meal storage silos, soiled water tank and gas storage tanks etc.

The proposed development will be located in Knockdromin, Croagh Co. Limerick. The operation of the proposed development will be integrated in so far as is possible, with the operation of the existing farming activities, and will provide for a sustainable diversification of activities on the farm. The proposed development will provide significant economies of scale for the applicant.

The capacity of this farm once the proposed development is in operation will be in excess of, that for which a Licence from the Environmental Protection Agency (E.P.A.) is required. The applicant will ensure that the required licence is in place prior to operation of the proposed development. This E.I.A.R. will be submitted to the EPA as part of the licence application process.

The application site lies within the catchment area of the River Maigue which lies c. 5 km East South East of the site. The EPA have defined the River Maigue as moderate to good ecological status for much of its course. Under the requirements of the Water Framework Directive, this is less than satisfactory, and this status must be improved. Storm water from roofs and clean yards will discharge to an underground holding tank for reuse. The storm water discharge points will be regularly checked, inspected, and monitored. There will be no discharge of any soiled water or any effluent from the site to any watercourse or to groundwater. Soiled water will discharge into existing underground holding tank with a capacity of 117.6m³ for spreading on client's landholdings of c. 300 acres.

The site in question is located in a rural area within the townland of, Knockdromin, Croagh Newcastle West. The site is 6.57 acres in area, and it is accessed via the L8025 road. It is c. 2 km NNW of Croagh and c. 6 km WSW of Adare, Co. Limerick. The activity on the farm is, and will be, a poultry farming activity appropriate to the area and consistent with the Co. Limerick development plan.

The proposed finished floor level will be in keeping with existing ground levels and set so as to ensure that any soil excavated on the site can be utilised to level low level areas where possible, while at the same time minimising excavation and potential visual impact. The location of the proposed development screened by the existing land topography and the existing hedgerows and trees together with the proposed external finishes and proposed landscaping will mean that the development will be well integrated into the existing landscape. There are 7 No. sensitive receptors within the vicinity (350m) of the proposed development.

The site is also located approximately 2.76 km from the closest Natura 2000 site – Askeaton Fen Complex (SAC).

All lights in the existing house and proposed house will be L.E.D. lighting.

The proposed poultry house will be similar in design principles to the existing poultry houses on the site. The type of houses proposed is a simple closed building of concrete/steel/prefabricated panel construction, thermally insulated with forced computer-controlled ventilation system and artificial lighting. Birds are housed on a solid floor, with litter (wood shavings/chopped straw) spread over the entire floor area. Automated feeding and drinking systems are proposed and are in line with Best Available Techniques (BAT) requirements. A button nipple drinking system will be used in the proposed house as this is the most efficient type of drinking system and will ensure that the manure/litter remains as dry as possible.

Only the most efficient systems of poultry husbandry are proposed on this farm and houses will be well maintained and serviced so as to ensure that they are operating to maximum efficiency. The proposed poultry house will be similar in design principles to the existing house on the site.

The proposed poultry house will be of a steel portal frame construction on a concrete base. Walls will be concrete, with a prefabricated panel construction and the roof cladding will be box profile juniper green (or similar). The proposed poultry house will be 2'022m² with an overall height of 6.643m.

The proposed process on this farm will be similar to other such houses in this part of Co. Limerick and will be in line with the requirements of the Department of Agriculture, Food & Marine and Bord Bia. The applicant will be responsible for the feeding, management and husbandry of the birds and for ensuring that all of the required records are maintained. The stock for this farm will be brought from the hatchery as day olds and will remain in the houses until c. 7-8 weeks of age when they are transported to Carton Brothers Manor Farm (or other approved processor) poultry processing plant in Corclare, Shercock, Co. Cavan. The proposed house will operate as an all in- all out basis to maintain a single age profile, and to maintain the health status of the birds.

The poultry manure from this farm will be cleaned out by the applicant and removed of site by an authorised contractor Kelly Bobcat Services on behalf of the applicant. The applicant provides the machinery and labour

necessary for cleaning out the houses: Kelly Bobcat Services are responsible for arranging transport and making arrangements for the receipt of this material. Kelly Bobcat Services carry out this function for a number of poultry farmers so as to provide a consistent, reliable service to all farmers and to provide a consistent supply of manure to the compost yards/ recipient farmers. The estimated manure production as a result of the proposed development will be a total of c. 150 - 185 tonne/annum.

Soiled water for the proposed development where applicable, will be collected in a dedicated soiled water collection tanks, located on site. This soiled water will then be applied to the adjoining landholding, in accordance with S.I. 605 of 2017.

Emissions to air from the site are and will be small and are attributable to the animals that are on the site. The odour associated with the site of the cumulative capacity of the existing house, proposed house and adjacent poultry houses do not and will not cause significant annoyance and will not interfere with amenity outside the boundary of the site. Odour emissions from the site may be increased at times when birds and/or manure is being removed from the site, however, this occurs for only a short period (3-4 hours) in every cycle. The production cycle allows for c. 5 flocks / annum.

A small proportion of birds maintained on the farm die prematurely. These carcasses will be stored in a covered sealed container on site, awaiting collection by an authorised contractor. Wards Waste is an authorised contractor who can regularly remove these carcasses and any other such material to an authorised animal by-products plant at Tournafulla, Co. Limerick in compliance with existing requirements.

The potential of the proposed development, either independently and/or when assessed cumulatively with other developments in the area, for either direct or indirect, short, medium or long term adverse impact on environmental parameters is negligible, if any, because:

Of the nature and scale of the proposed development
Wastes would be removed from the site by authorised waste contractors for either disposal or use elsewhere.
All manure is to be removed off site by an experienced contractor, and,
All soiled water will be collected in dedicated soiled water collection tanks pending its application to the applicant's landholding.
While waste generated in the site would be accumulated and stored temporarily in the site, there would be no disposal or recovery of any waste undertaken on the site.

INTRODUCTION

QFT has been appointed by Michael Hanley to prepare an Environmental Impact Assessment Report (EIAR) in support of a planning application for the construction of an extension to 1 No. poultry units at, Knockdromin, Croagh Co. Limerick. The proposed development is c. 2 km NNW of Croagh and c. 6 km WSW of Adare, Co. Limerick. Existing development on site consists of an extension to an existing poultry house with a completed stocking capacity of 26'250 free-range birds. A previous planning reference is associated with this development ref: 16/515

1.1 Background

Michael Hanley's facility will require planning permission for an extension to an existing poultry unit with a capacity to hold 26'250 free-range birds.

The existing poultry house has the capacity of 11'800 birds and the proposal is to extend this to a 26'250 bird house for free-range birds. There is an existing free range house with a bird capacity of 27'150 Planning ref: 16/515. The proposed site total capacity will now be 53'400 for the production of free-range chicken for human consumption in a welfare friendly system. The proposed house will be constructed in accordance with, and to comply with, S.I. No. 14 of 2008 EUROPEAN COMMUNITIES (WELFARE OF FARMED ANIMALS) REGULATIONS 2008.
The project site is a privately owned poultry farm supplying poultry to Carton Brothers Manor Farm (or other approved processor) poultry processing plant in Corclare, Shercock, Co. Cavan. The increased capacity at Michael Hanley's poultry growing operation will help meet the growth in the poultry sector. The current project involves the completion of an Environmental Impact Assessment Report clarifying the nature of all current and proposed impacts that the poultry farm currently has and will have on its surrounding environment.

The Environmental Impact Assessment Report will be submitted to Limerick City & County Council in support of an application for planning permission to construct an extension to 1 No. proposed poultry house together with all ancillary structures and associated site works, on an existing poultry farm site at, Knockdromin, Croagh Co Limerick.

1.2 Proposed Development

Mr Michael Hanley's Poultry Farm consists of two poultry houses (1 No. existing, 1 No Proposed (extension)) The site is located in, Knockdromin, Croagh Co. Limerick. The site is c. 2 km NNW of Croagh and c. 6 km WSW of Adare, Co. Limerick. This poultry farm is currently operating as a 38'950-free-range chicken farm.

The newly constructed poultry house which is located furthest North on the site (address: , Knockdromin, Croagh Co. Limerick) was granted planning permission (ref: 16/515) on 3rd November 2016 for the erection of a poultry house which since has been fully constructed.

This site (as indicated on accompanying map- Appendix A) is a well-managed, modern site. The site is run to meet the highest standards.

1.3 Site and Surrounding Lands Development

The total area of the site, incorporating existing and proposed areas is 6.57 acres. The proposed development will extend the existing house to the West and North faces of the existing house at approximately 210m from the L8025.

The proposed site at, Knockdromin, Croagh Co. Limerick is located within the town land of, Knockdromin, Croagh c. 2 km NNW of Croagh and c. 6 km WSW of Adare, Co. Limerick

The site is in a rural farmland area which is sparsely populated.

The nearest occupied dwelling house is the applicants i.e. Michael Hanley's at a distance of approximately 133m to the East of the site. The next nearest occupied domestic dwelling is c. 140m to the east of the poultry house. This property is the original family home of the applicant. There are six additional domestic dwellings within 350m of the existing poultry house all located generally to the east of the property.

The site boundary is marked by a combination of hedgerows and fencing. The existing poultry growing facility is situated in a natural dip in the landscape and is largely screened from views from the North East to East due to nature of the of the topography. The proposed development is visible from the local L8025 road approaching from the South East, however, every effort will be made by the developer to further obscure the poultry growing facility from the surrounding areas, by the planting of native trees along the entire length of the poultry house along the southern side if it is deemed necessary.

The proposed development of the poultry house will have a capacity of approximately 26'300 birds and the completed house will be 2'022m² each. The maximum height of the proposed house would be approximately 6.643 meters to the apex. The existing soiled water tanks located to the North of the proposed poultry house have a total capacity of approximately 117.6m³. A storm water tank with a capacity of 36m³ will be installed as part of this development for the purpose of storage and reuse at source (see plans Appendix 3)

The existing entrance from the L8025 will remain and serve as an access point for the proposed development.

1.4 Planning and Consents History

This planning application seeks to receive planning permissions for 1 poultry house and associated works.

Recent Planning Applications

File Number	Development Description
8728022	the construction of a poultry house and carry out all associated site works...
16/515	the construction of a poultry house and carry out all associated site works...

To ensure a comprehensive assessment was completed which included all existing, permitted and proposed developments at Michael Hanley's facility, these developments have been assessed as existing and operational structures and have formed part of the baseline assessments completed to inform this EIAR.

Regulatory Requirement for an EIAR

As the new development will house 26'250 birds giving a total of 53'400 birds for this site. The proposed development exceeds the threshold required for the preparation of an environmental Impact Assessment Report as per S.I. 600 of 2001 (Planning and Development Regulations 2001, as amended) Schedule 5 Part 2 1 (e) (i) as follows:

"Installations for intensive rearing of poultry not included in Part 1 of the Schedule which would have more than 40'000 places for poultry".

1.5 Environmental Impact Assessment Regulations

Environmental Impact Assessment (EIA) Requirements derive from European Communities Directive 85/337/EEC (as amended by Directives 97/11/EC and 2009/31/EC) and as codified and replaced by Directive 2011/92/EU of the European Parliament and the Council on the assessment of the effects of certain public and private projects on the environment and as amended in turn by Directive 2014/52/EU.

In addition to transposing the mandatory requirements which apply to Annex I projects Ireland chose to set thresholds for each of the project classes in Annex II. The thresholds were set at levels to distinguish between those projects, which by virtue of his nature, size or location would be likely to have a significant effect on the environment and those, which would not.

Irish implementing legislation addresses the possible need for EIA below the specified thresholds. In summary these require the carrying out of EIA where the competent authority considers that a specific development would be likely to have a significant impact on the environment. In light of the approach adopted by Ireland in relation to Annex II there should only be a limited need for EIA below the thresholds specified.

The Irish EIA system implements the EU Directive through the integration of its requirements into the land-use planning consent system and several other development consent systems covering for example offshore development, roads / motorway construction, light rail systems and the laying of oil and gas pipelines. Requirements on development which may arise from the provisions of legislation such as the European Communities (Natural Habitats) Regulations 1997, the National Monuments Acts 1930 to 1994 and Wildlife Acts 1976 to 2000 are also significant.

The EIAR is drafted with particular regard to the aforementioned directives and the Planning Developments Acts 2000 (as amended), the Planning and Development Regulations 2001 – 2015 and in particular Article 94 and Schedule 6 of the 2001 Planning and Development Regulations, the Protection of Environment Act 2003, and section (1) (b) ANNEX iii of the Directive 2014/52/EU. It is submitted to provide information that may be helpful to the planning authority in making its decision on the application for the proposed development.

1.6 Development Description

The proposed development has been well designed, and the most efficient systems are proposed on this farm. All systems will be maintained and serviced so as to ensure that they are operating to maximum efficiency. Appendix 2 includes detailed drawings of the proposed development.

Free-range rearing design principles follow a simple template and have not changed significantly over recent years. The type of poultry housing proposed on this farm is designed for Free-range rearing and comprises a simple closed building of concrete/steel/prefabricated panel construction on an impervious concrete base, thermally insulated with a forced computer-controlled ventilation system and artificial lighting. Birds are housed on a solid floor, with litter (wood shavings / chopped straw) spread over the entire floor area. Automated feeding and drinking systems are proposed and are in line with Best Available Techniques (BAT) requirements. A button nipple drinking system will be used in the proposed house as this is the most efficient type of drinking system and will ensure that the manure/litter remains as dry as possible.

The proposed poultry house will be of a steel portal frame construction on a concrete base. Walls will be concrete, with a prefabricated panel construction and the roof cladding will be box profile juniper green (or similar). The proposed poultry house will be 2’022m² with an overall height of 6.643m.

All manure is to be moved off-site by a registered contractor in line with the requirements of S.I. 605 of 2017.
The measures outlined as BAT for the poultry sector, (in the Integrated Pollution Prevention and Control (IPPC) Reference Document on Best Available Techniques for intensive rearing of Poultry and pigs), and in particular this type of production include:

- *The naturally ventilated house with a fully littered floor and equipped with non-leaking drinking systems, or*
- *The well insulated fan ventilated house with a fully littered floor and equipped with non-leaking drinking systems.*

1.7 Operation of the Proposed Development

Operating hours: The main activities at this farm occur during normal working hours between 06.00am and 20.00pm. Stock inspections in line with normal farming practices are and will be carried out every day including weekends and holidays. Automatic feeding and ventilation systems operate on a 24-hour basis and in addition, essential activities may be carried out outside of core working hours.

Production Process: The production process on this farm will be in line with the requirements of the poultry processors, Carton Brothers, and customers of the processors. Carton Brothers arrange for a number of farm inspections to be carried out during the year, so as to ensure that all of his production standards and requirements are being compiled with. In addition to the above the applicant is also subject to inspections from Bord Bia, the Department of Agriculture, Food and Marine, Limerick City & County Council and the Environmental Protection Agency.

Feeding: All birds will be fed by means of an energy efficient, low maintenance, automated feeding system. Feed will be moved from the external feed storage bins into the house. There are four stages of rations fed throughout the lifecycle, Starter, Grower 1, Grower 2 and finisher. Each diet is tailored to meet the nutritional requirements for protein/ amino acids, energy, minerals and vitamins at that stage of production and to minimise nutrient excretion. This will ensure that birds are healthy and contented and are reared properly so as to produce healthy efficient birds which achieve set target food conversion efficiencies. Total feed consumption/annum is expected to be c. 950 t. All feed to be used on this farm will be supplied from specialised feed suppliers.

Production Cycle: The applicant is responsible for the maintenance and preparation of the house, management of the birds, feeding, water and ventilation systems and for ensuring that all of the required records are maintained for each flock. The stock for this farm will be brought from the hatchery as day olds and will remain in the house until c. 7-8 weeks when they will be caught by specialist bird catchers and transported by HGV to the processors at Shercock, Co. Cavan. The proposed house will operate in an all in – all out basis to maintain a single age profile, and to maintain the health status of the birds.

The production cycle on the farm is c. 7-8 weeks with 1 - 2 weeks empty after every batch. This results in c. 5 batches per annum.

Day 1 - Birds moved to the farm.
Day 35 – 42 - Birds removed from the house.
Day 43 – 45 - Manure removed from the house.
Day 45 – 47 - House washed down and left to dry.
Day 50 - House bedded with shavings: ready for the next cycle of birds.

It is envisaged that the applicants will seek approval under the Bord Bia approval system, as per the Poultry Products Quality Assurance Scheme (PPQAS), upon completion of the proposed development and commencement of poultry farming activities on the site. As part of this approval the daily procedure will follow the Bord Bia Poultry Products Quality Assurance Standard Producer Requirements.

The following house checklist and flock inspection checklist are included as part of this standard:

House Preparation Checklist

Preparation of the House:

- Spread fresh bedding evenly to cover floor.
- Pre-heat the house gradually, at a minimum, 24 hours before the birds arrive.
- The temperature must be stable.
- Set up external heaters so as to ensure that there are no extremes of temperature in the house.
- Place independent thermometers around the house with at least two of them at bird level, to monitor uniformity of temperature.
- Provide fresh, clean water to the birds immediately on his arrival at the house, Starter rations must also be available.
- Use trays and paper to supplement pan or track feeders, if required.
- Feeders and drinkers must not be placed directly under a heat source.
- Before the birds arrive, carry out a final house check to ensure that temperatures are at the correct levels and that there are no water leaks.

Management of Organic Fertiliser: The poultry manure from this farm will be cleaned out by an authorised contractor Kelly's Bobcat Services and removed of site by an authorised contractor Kelly's Bobcat Services, on behalf of the applicant. The contractors provide the machinery and labour necessary for cleaning out the houses: Kelly's Bobcat Services are responsible for cleaning of the houses: Kelly's Bobcat Services are responsible for arranging transport and making arrangements for the receipt of this material. Kelly's Bobcat Services carry out this function for a number of poultry farmers so as to provide a consistent, reliable service to all farmers and to provide a consistent supply of manure to the compost yards/ recipient farmers. They are registered with the Department of Agriculture for the transport of Animal By-Products. The estimated manure production as a result of the proposed development will be c. 150 -185 tonnes/annum.
As previously detailed all manure will be moved off-site by an approved registered contractor in compliance with S.I. 605 of 2017, i.e., the regulations that have given effect to the Nitrates Directive in Ireland. Additional details provided by the contractor have been included as Appendix No. 5.

Management of Soiled Water: Soiled water from the proposed development where applicable will be collected in a dedicated soiled water tanks, located on site. Estimated soiled water production will be c. 125.5 m^3/annum. This soiled water will then be applied to the applicant's farmland c. 300 acres in line with S.I. 605 of 2017. A map is included in Appendix 7 indicating the location and extent of farmland available for soiled water.

Biosecurity: To minimise the risk of personnel bringing infection into the poultry farm all visitors are banned with the exception of essential personnel such as veterinarians and servicemen. All visitors must sign a register and use appropriate disinfectant procedures. Designated lorries are to be used to deliver feed to the farm. A vital part of maintaining health within the unit is a necessity to fully clean out after each flock is removed. This avoids the build-up of bacteria and viruses which challenge the incoming stock and which may affect his production efficiency. Once litter has been removed by the designated contractor all internal surfaces are washed down using a power washing system and then disinfected.

1.8 The need for the development

As described in the introductory section of this document, the development comes about as a result of the need for the facility to supply a quality product to Carton Brothers Poultry processing plant and a need to ultimately meet local and national food production requirements.

The development is currently operating to its capacity of 38'950 birds and is able to meet the highest standards in terms of Animal Welfare.

Mr Michael Hanley has since 1988 operated to a very high standard, a poultry operation at the site of the proposed development. Mr Hanley commenced operations in 1988, expanding the poultry farm with a newly built poultry house in 2016 and the poultry operation has reached its target throughput and fully intends to continue to operate at the level of 27'150 free-range birds per cycle (5 cycles per annum, new house) for the next number of years. The old poultry house has been operating as a free range poultry unit 11'800 birds, but this has ceased pending the construction of the extension to said unit.
Mr Michael Hanley and his poultry operation are regarded as a valuable addition to the local economy and its existence is vital to supporting commercial entities, families and services locally. This will be further expanded in the Material Assets section (10.0) of this document.

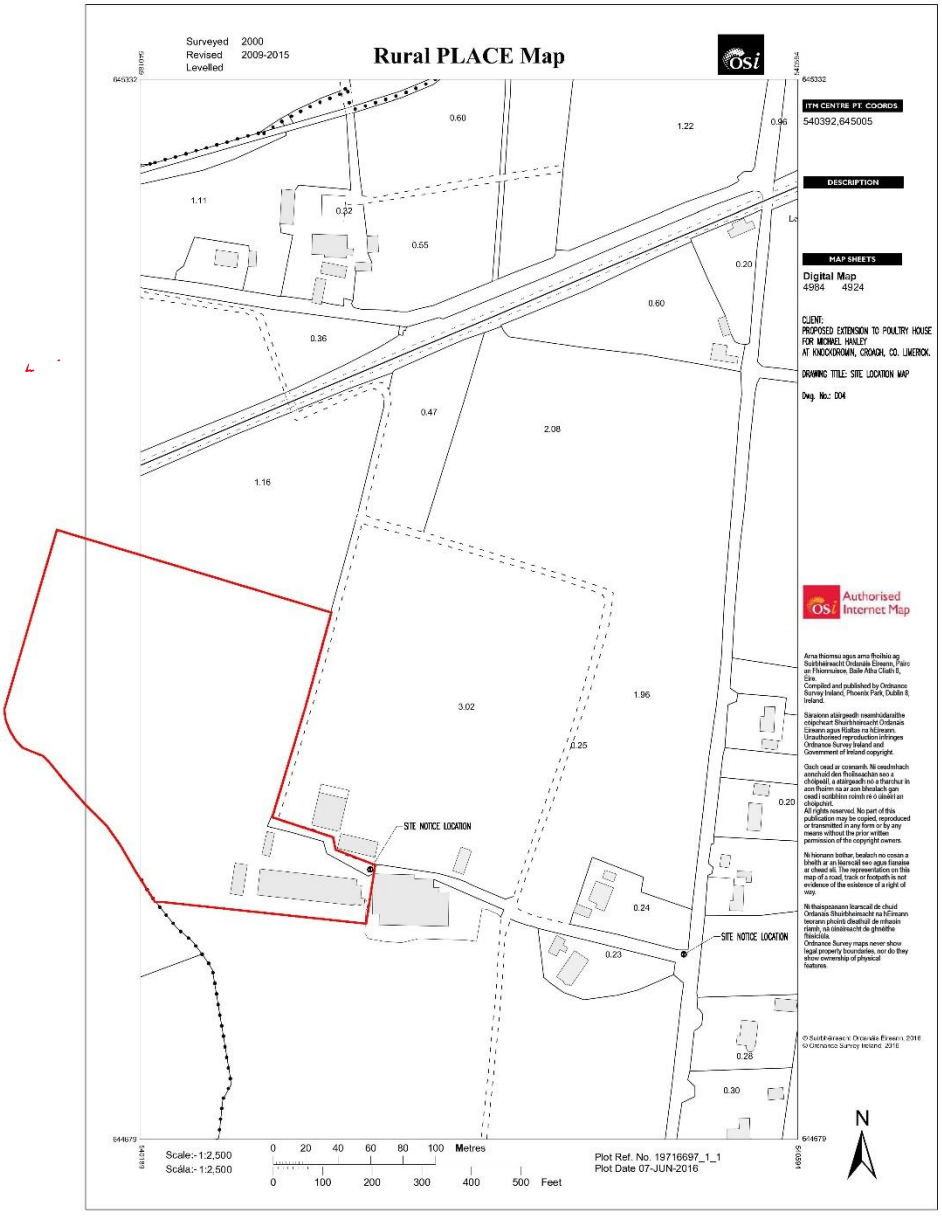


Figure 1: *Site Location*

2.0 SCOPING AND CONSULTATION

2.1 Introduction

This section deals with the process, which endeavoured to identify and emphasise the issues which are likely to be important in the EIA and to eliminate those which are not. In general, the scope of the EIA relative to the project has been drawn up by the professionals on the project team. In the case of this project the scoping was in general informal.

2.2 Consultation

The scoping of this E.I.A.R was carried out by the design team in conjunction the applicant and was completed in line with previous submissions to the Environmental Protection Agency, Limerick City & County Council. Other organisations and bodies consulted directly / indirectly include:

- Geological Survey of Ireland
- Met Eireann
- Office of Public Works
- Department of Agriculture, Food and the Marine
- Department of the Environment, Community and Local Government
- National Parks and Wildlife Service
- Environmental Protection Agency
- Simple Calculation of Atmospheric Impact Limits

2.3 Scoping

Scoping is an essential part of the preparation of an EIAR as it ensures that all potential and important significant impacts on the receiving environment are taken into account at the earliest possible time. Scoping by its very nature will evolve with the project as design changes are made and more detailed information on environmental issues and design comes to hand. However, as an early-stage tool it provides relevant information on the most important potential impacts of the project, which will have to be addressed in the EIA.
The European Union (Environmental Impact Assessment) Regulations, (as amended) and directive 2014/52/EU prescribe a list of area of the environment that must initially be addressed in any E.I.A.R. These areas may comprise of:

- Population and Human Health
- Bio-Diversity (Flora & Fauna, Special Policy Areas etc.)
- Land and Soil
- Water
- Air
- Climate
- Landscape
- Material Assets
- Traffic
- Architectural and Archaeological Heritage
- Cultural Heritage
- The Inter-relationship between the factors listed above.

It is necessary to encompass each of these sections of the environment with respect to the impacts that the proposed development will have on them. The purpose of this exercise is to shape and mould the E.I.A.R. so as not to overlook any impacts that may be significant and to focus on the issues that have potential for environmental impact.
In this case the above criteria were studied and prioritised, ensuring that particular attention was paid to the issues that are directly relevant to the impact of the proposed development. A Matrix has been developed so as to assess the magnitude and nature of any potential impacts at the scoping stage. Resulting from this preliminary assessment, only those issues identified as significantly potentially impacted by this development have been assessed in detail in this E.I.A.R.

2.4 Impacts

Any development may result in indirect effects, along with the direct effects of, in this case, construction. The potential impacts that the proposed development could impose on each aspect of the environment were sub-divided into the following categories and analysed separately.

- Potential impacts if the proposed development does not proceed.
- Potential impacts during construction phase of the proposed development.
- Potential impacts during operational phase of the proposed development.

	No Development	Construction Phase	Operational Phase
Population / Human Health	#	✓✓	✓✓
Biodiversity (flora)	#	**X**	#
Biodiversity (fauna)	#	**X**	#
Land & Soil	#	#	✓✓
Water	#	**X**	**XX**
Air	#	#	
Climate	#	#	#
Ambient Noise	#	**X**	#
Cultural Heritage	#	#	#
Landscape	#	**XX**	**X**
Material Assets			
Traffic	#	**X**	**X**
Land Use	#	#	✓
Employment	**X**	✓✓	✓

Table 1: *Potential Impacts*

Key:

#	no impact		
X	slight Negative Potential Impact	✓	Slight Positive Potential impact
XX	Moderate Negative Potential Impact	✓✓	Moderate Positive Potential impact
XXX	Significant Negative Potential Impact	✓✓✓	Significant Positive Potential impact

Data required to identify and assess the main effects that the proposed development is likely to have on the environment.

- Knowledge of the environment in which the proposed development, (and the existing farm) is to be sited.
- Knowledge of the processes in the proposed development, and the existing farm.
- The emissions to air.
- The emissions to groundwater
- Characteristics of the effluent to be treated on site.
- The emissions to surface waters.
- The ambient quality of receiving waters.
- Availability of contractors to transport and treat wastes / by-products sent off-site.

3.0 ALTERNATIVES

3.1 Introduction

The Planning and Development Regulations 2001 specifies the information to be contained within an EIS. Schedule 6 1(d) specifies that an EIS shall include *"An Outline of the main alternatives studied by the developer and an indication of the main reasons for his or her choice taking into account the effects on the environment."*
Therefore, as part of the initial planning stages for the proposed development, a number of alternatives were evaluated for the development at Mr Michael Hanley's farm. These alternatives included other sites, other uses for the site chosen and process changes taking account of environmental impacts.

3.2 Alternative Considerations

The applicant chose this typical type of housing employed as it is the most modern design employed in the industry at present. The reasons as to why no alternative was chosen are as follows based on knowledge provided by poultry farmers in the greater area. The applicant has experience of the type of house and has constructed similar type unit in the recent past.
The house type is found to be satisfactory as regards day to day running and its conditions for the birds.
No significant problems of operation have been encountered in the running of the proposed house type.
The manufacturers of the house are constantly working to ensure his housing is designed to the highest specification in terms of efficiency and minimal environmental disruption.

3.3 Alternative Sites

The current site of the proposed development has already been in existence in its current form under Michael Hanley since 1988. The site itself is geographically located in a rich agricultural hinterland adequately serviced by its supply base and by the processing plant for its produce. With this in mind, the applicant chose this site for the following reasons.
The area of the farm holding itself to an extended poultry unit.
The area has no signs of over development either from a domestic or agricultural perspective.
An existing agricultural entrance onto public road can be utilised.
Resources available at site.
Existing drainage system capable of facilitating the development.
The site chosen is close to the applicants dwelling.
The site is substantially level and requires minimal excavation works.

No more suitable alternative sites are proposed or have been evaluated in the preparation of this report.

3.4 Alternative Processes

The production of chickens has been extensively developed in the country and throughout Europe for many years and developmental change has been minimal in general. The processes are in essence the same and it is clear that alternative processes would not be in adherence with the accepted norms so no alternative processes have been addressed. The management of raw materials and utilities are constantly being reviewed with a particular focus on sustainability and energy efficient initiatives for the operations and for the management of the onsite generated waste materials.

3.5 Proposed Site:

As previously detailed, the applicant has selected the site for the proposed development taking the above considerations into account. In addition, the proposed site:

- Is the most suitable site in terms of minimizing the level of excavation / groundworks required.
- It is located c. 210m in off the L8025 in a natural substantial dip in the landscape and therefore will not be visually detrimental approaching from the North East / East on the adjacent road. All of the nearby sensitive receptors are located generally to the East of the proposed development. There may be a slight visual impact approaching from the South East on the adjacent road. Every effort will be made by the developer to further obscure the poultry growing facility from the surrounding areas, by the planting of native trees along the entire length of the poultry house along the southern side if it is deemed necessary.
- Is separate from the applicants existing farmyard, thus preventing direct contamination from agri-vehicles, personnel, footwear etc. between enterprises. Biosecurity is important to any enterprise such as this and the applicant would like to maintain this to the highest standards.

4.0 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

The magnitude of the impacts outlined in the chapters which follow, take into account the guidelines given by the EPA and those scales used in other EIAR documents for significant developments in this country. A broad outline of the scale of impacts is given in the table below. Where mitigation in the form of design measures have been suggested throughout the evolution of the EIAR, these have been incorporated into the scheme design as far as is possible from an engineering perspective.

General Criteria used to quantify the Potential Impacts of the Proposed Scheme:

Degree of Impact / Significant Level		Definition of Impact
Profound	Significant Impact	An impact, which obliterates sensitive characterisation
Major		An impact, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
Moderate		An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends
Slight		An impact, which causes noticeable changes in the character of the environment without affecting its sensitivities
Not Significant	Neutral or imperceptible impact	An impact which does not change the quality of the environment is capable of being measured but without noticeable consequences and causes changes in the character of the environment which are not significant or profound.

Table 2: *Potential Impacts Criteria*

4.1 Effects on Landscape:

The proposed development site is atypical of the local topography of the area. It is located in a substantial natural dip in the landscape and as such is generally screened from view. The proposed development will be screened from view by the existing land topography, hedgerows, trees, distance from the L8025 local road and proposed landscaping., (landscaping as detailed on the plans provided, and in line with Department of Agriculture, Food and The Marine Specifications as contained in Appendix No. 14.

As can be seen from the plans submitted with this application the floor level will be in keeping with existing ground levels and set so as to ensure that any soil excavated on the site can be utilised to level low level areas where possible, while at the same time minimising excavation and potential visual impact. The location of the proposed development screened by the existing land topography and the existing hedgerows and trees together with the proposed external finishes and proposed landscaping will mean that the development will be well integrated into the existing landscape. The site is set back approx. 210m from the L8025. All of the nearby sensitive receptors are located generally to the East of the proposed development and as such there are no sensitive receptors within the vicinity of the proposed development.

It is anticipated that following the construction of the proposed development, there will be no significant impact in an overall landscape context. The continued management of the hedgerows and the maintenance of the poultry houses will not have significant impact in terms of landscape and visual impact.

4.1.1 Construction Impacts

Construction activities e.g., excavations, earth moving etc. may generate quantities of construction dust, particularly in drier weather conditions. The extent of any construction dust generated depends on the nature of the construction dust (soils, sands, gravels, silts etc.) and the construction activity. The potential for construction dust dispersion depends on the local meteorological facts such as rainfall, wind speed and wind direction.
The issue of construction dust dispersion may be exaggerated with vehicles transporting sand/gravels/soils etc. to and from the site having the potential to cause an environmental nuisance.
The effect of construction activities on air quality, in particular construction dust, will not be significant following the implementation of the proposed mitigation measures outlines below. The main environmental nuisance associated with construction activities is dust.

4.1.2 Mitigation

It is proposed to adhere to good working practices and dust mitigation measures to ensure that the levels of dust generated will be minimal and are unlikely to cause any environmental nuisance.
Hard surface roads shall be swept to remove mud and aggregate materials from his surface. Any un-surfaced roads shall be restricted to essential traffic only.
Public roads outside the site shall be regularly inspected for cleanliness and cleaned as necessary.
Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. Diesel engines of plant machinery and trucks shall be properly maintained so that they do not discharge excessive quantities of visible smoke likely to result in a local nuisance. Spill kits will be available onsite in case of fuel/ oil etc. spillage.

4.1.3 Monitoring

There is no proposed monitoring for dust or odour at the poultry growing operation. The site is set back approx. 210m from the L8025 and as such there are no sensitive receptors within the vicinity of the proposed development. If any complaints are received, a follow up investigation will be initiated. This will be initiated as soon as feasible and all results made available to the local authority and any relevant bodies for inspection.
In the event that dust or odour from the proposed development is creating an environmental nuisance, an ambient dust deposition survey will be carried out by an air quality specialist and mitigation measures will be developed to eliminate the nuisance. In the event of odour nuisance an investigation following the EPA Air Guidance on Odour Assessment (AG5) will be initiated.

4.1.3.1 Construction

As a minimum, the contractor will comply with all legislative provisions relating to hedgerow / tree removal and the protection of birds and bats and shall have regard to reducing impacts on nesting birds and breeding / roosting bets. If badger sets are located, pre or during construction, they will be dealt with in accordance with advice from the local NPWS wildlife ranger.

4.2 Effects on Human Beings

The proposed development is of average scale by current industry standards, but it would add to the economic activity on the farm, with consequent "trickle down" positive effect in the region and the local community, particularly with regard to construction workers, supply of construction materials, and the installation of the required housing, water, feed and ventilation systems, thus helping to stabilise the population of the local area.

Significant effects on population / human health and/or human beings are not anticipated. There are no third-party dwellings close (i.e., within 400 meters) to the proposed development as to be adversely affected by or experience significant impairment of amenity due to the proposed development.

As a result of the fact that the development is in operation for some time and there have been no recent process changes, it is anticipated that there will be no new sources of impact on human beings. All of the impacts will already exist albeit at a smaller scale.

The proposed development is unlikely to generate or release sounds or odours that will significantly impair amenity beyond the site boundary. The site is located 210m in from the local road L8025 and as such, is at a distance to mitigate negative effects from the proposed development. Noise emissions of 55dB daytime and 45dB night-time are highly unlikely to be exceeded beyond the site boundary. There are no processes proposed which will constantly or regularly release odourous emissions from the site at nuisance levels. Fugitive odour emissions at the site will not be significant and will be limited to times at which birds/manure are being removed from the site. In so far as is possible odour emission is to be managed so as to occur at times when the effect within the site or outside it, will be minimal.

Where nuisance effects occur, people object and under statutory requirements his objections will have to be investigated and have to be corrected if found to be real and justified. This existing farming activities have not received any complaints of this nature to date.

The development will also ensure sustained supply to the processing plant in Shercock, Co. Cavan

The National economy will benefit too as a result of the poultry farm maintaining its high standard of operations due to its taxation contributions and through its activities will assist in bolstering the National Export volume and inter-European trade figures.

4.3 Effects on Land and Soil

The structures proposed for the site would be constructed on a greenfield site, and as such there will be disturbance of same within the boundary. There is no significant potential for any effect on soil, outside of the development area, and any land take required to facilitate the proposed development will be minor in terms of the applicant's landholding and the wider agricultural area.

There is a potential for some positive benefits on soil on potential customer farmer lands as a result of the production of organic fertiliser by the proposed development. Such organic fertiliser provides a valuable addition to the soil adding nutrients not generally found in chemical fertiliser. Organic matter in soils is generally in decline, particularly on tillage farms and the use of an organic fertiliser is preferable to chemical fertiliser in maintaining adequate organic matter levels in soils. All organic fertiliser is destined for compost production or supplied to customer farmers for use as organic fertiliser in accordance with S.I. 605 of 2017 in response to demand. There will be a minor loss of grassland habitat from beneath the footprint of the proposed unit.

The sub soils in this area are described as till derived from Limestone on bedrock comprised of Waulsortian limestone (see Table 3: *GSI Bedrock Map & Table 4: GSI Subsoil Map)*

The proposal to land spread the liquid wash water (Soiled Water) and the solid may impact negatively on the destination land. All spreading of organic material must be carried out in accordance with the EPA and Dept. Of Agriculture guidelines and full traceability for such actions should be provided. The management of waste materials, waste oils (generator oil in particular) and chemicals onsite is essential to ensure adequate protection is in place for soils and sediment in particular.

There will be no significant impacts on soil, sediment and geology via the existing development at the site. Impacts in general will proliferate at two junctures in any development namely the construction phase and the operational phase of the development.

A storm water tank with a capacity of 36m³ will be installed as part of this development for the purpose of storage and reuse at source.

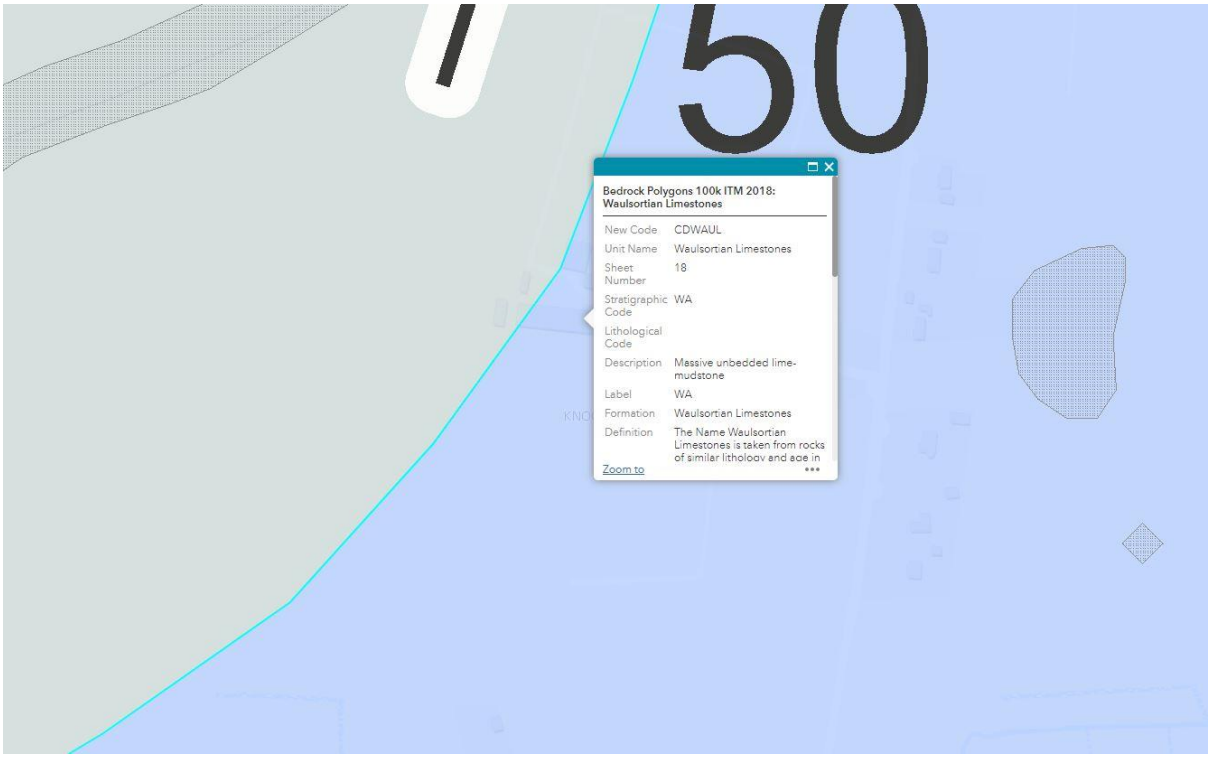


Table 3: *GSI Bedrock Map*

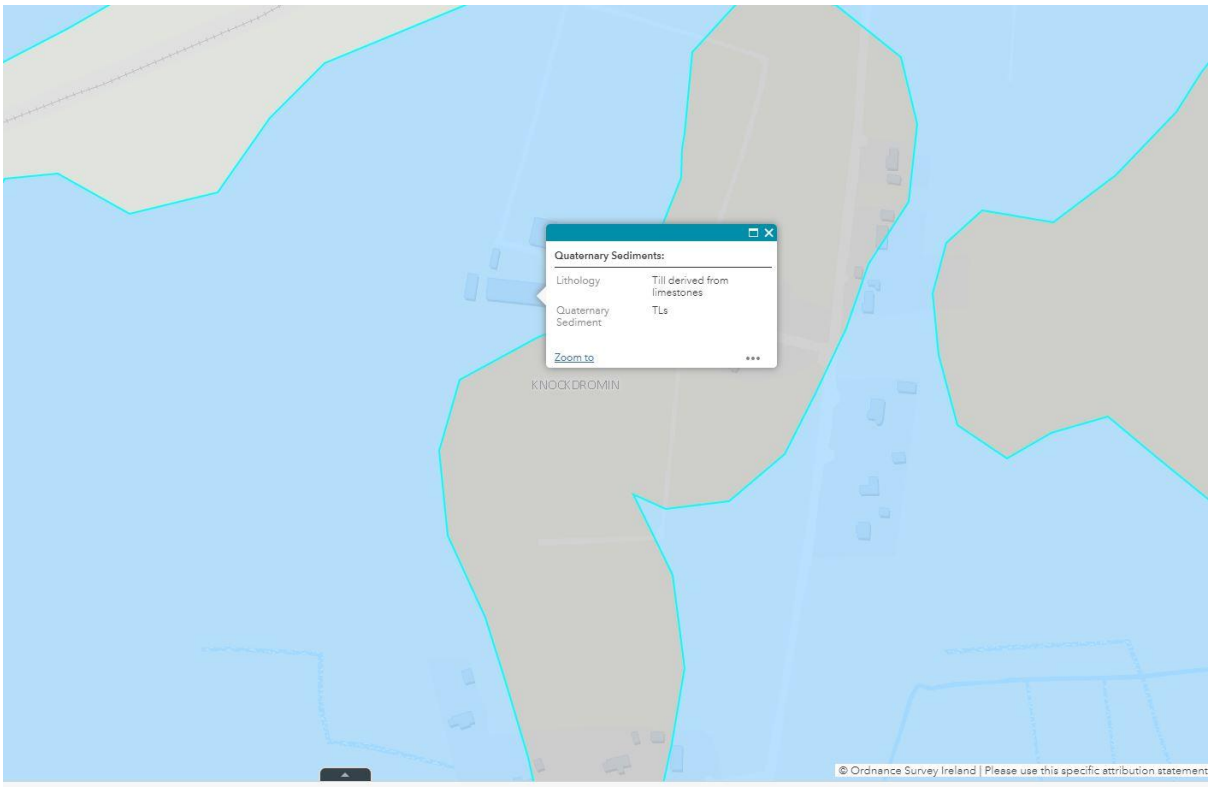


Table 4: *GSI Subsoil Map*

4.4 Employment

In order for this poultry farm to remain competitive and in existence the farm management have deemed that compliance with all statutory requirements for the development is a necessity.

4-6 no of construction jobs will occur as a direct result of the development. Existing employment provided by the poultry farm in the areas of stock provision, feed supply and maintenance will be maintained as a result of the development.

4.5 Settlement and Social Patterns

No effect to existing settlement patterns is anticipated as a result of the development.

4.6 Flora and Fauna

4.6.1 Introduction

A walk over survey of the environs of the Poultry installation was carried out by Mr Keith Massey of QFT Ireland Ltd at the site on 10th Feb 2021. The aim of the survey was to determine the impacts that the existing development has had and will have on the existing flora and fauna.

4.6.2 Methodology Employed

A site walkover survey was carried out on 10th Feb 2021 in order to establish the current flora and fauna of the environs of the installation and to establish whether there is a requirement for a full Flora and fauna (Ecological) study at the site with respect to the development. In line with that a basic screening exercise was also conducted at the site to establish developmental effect on flora and fauna at the site.
This assessment concluded that the site was reflective of the existing agricultural hinterland common in the area. The site is not on a source receptor pathway to any significant ecosystem locally. The site is located c. 2 km NNW of Croagh and c. 6 km WSW of Adare, Co. Limerick which is not designated as a National Heritage Area (NHA), Special Area of Conservation (SAC) or Special Protected Area (SPA). No significant species in the region were sighted on the site inspection.

The site is also located approximately:

- 2.76 km ESE of the Askeaton Fen Complex SAC
- 3.276 km SbW of the Curraghchase Woods SAC
- 5.831 km WSW of the Lower River Shannon SAC
- 8.81 km SEbE of the River Shannon & River Fergus Estuaries SPA
- 11.375 km ESE of the Barrigone SAC
- 12.704 km WbN of the Tory Hill SAC
- 14.258 km EbN of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA

4.6.3 Results

The basic result of the assessment and site walkover is that the facility is existing and has been operated by Mr Michael Hanley as a poultry farm since 1988. No evidence was apparent that the existing operations of the site had in any way compromised the ecological standing of the areas proximate to the site. The basic screening process identified that there is minimal potential for the development and its operations to impact on local surface waters due to the topography of the area and the fact that all storm / soiled water is and will be collected and stored onsite for reuse, soiled water for spreading on applicant's landholdings and storm water reuse for all washing operations onsite.

4.6.4 Impacts of the Development on the Flora and Fauna

The site of the proposed development is a greenfield area, previously approved by Limerick City & County Council for 2 No. Poultry Houses. As the proposed development will be limited in extent it will have no adverse impact outside the boundary of the site.

The site is intensively managed grassland, having been managed as part of a bovine farming enterprise, and the flora and fauna around the site has developed in this context. Much of the site and surrounding area to be developed is improved agricultural grassland. The area to be developed is relatively small and represents a sustainable farm diversification. Groundworks and land profiling will be kept to a minimum outside the footprint of the proposed site.
The proposed development is not near to or likely to adversely on any area of primary or secondary amenity value or views from scenic routes. Structures and new paved surfaces will cover a significant fraction of the site. The changes will affect such a small area that any impact will be close to zero or neutral with the local area.

The site is not located close to and/or likely to adversely impact on any Natura 2000 sites, the closest being the Askeaton Fen Complex (SAC), some 2.76km away. There are seven Natura 2000 designated sites within 15km of the application site. These designated areas and his closest points to the proposed development site are summarised in Table 5 and a map showing his location relative to the application site is shown in Figure 2, full details are available in Appendix 16: Appropriate Assessment Screening Report. A full description of these sites can be read on the websites of the National Parks and Wildlife Service (npws.ie).

Site Name & Code	Distance from Existing Development	Qualifying Interests
Askeaton Fen Complex SAC **Site code** 002279	2.76 km	Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Alkaline fens [7230]
Curraghchase Woods SAC **Site code** 000174	3.276 km	*Qualifying Interests* Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Taxus baccata woods of the British Isles [91J0] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016] Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]

Lower River Shannon SAC **Site code** 002165	5.831 km	Sandbanks which are slightly covered by sea water all the time [1110] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Petromyzon marinus (Sea Lamprey) [1095]

		Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [1106] Tursiops truncatus (Common Bottlenose Dolphin) [1349] Lutra lutra (Otter) [1355]
River Shannon & River Fergus Estuaries SPA **Site code** 004077	8.81 km	Qualifying Interests Cormorant (Phalacrocorax carbo) [A017] Whooper Swan (Cygnus cygnus) [A038] Light-bellied Brent Goose (Branta bernicla hrota) [A046] Shelduck (Tadorna tadorna) [A048] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054] Shoveler (Anas clypeata) [A056] Scaup (Aythya marila) [A062] Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Knot (Calidris canutus) [A143] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156]

		Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Greenshank (Tringa nebularia) [A164] Black-headed Gull (Chroicocephalus ridibundus) [A179] Wetland and Waterbirds [A999]
Barrigone SAC **Site code** 000432	11.375 km	*Qualifying Interests* Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Limestone pavements [8240] Euphydryas aurinia (Marsh Fritillary) [1065]
Tory Hill SAC **Site code** 000439	12.704 km	**Qualifying Interests** Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Alkaline fens [7230]
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA **Site code** 004161	14.258 km	Hen Harrier (Circus cyaneus) [A082]

Table 5: *Natura Sites Within 15km of the Proposed Site*

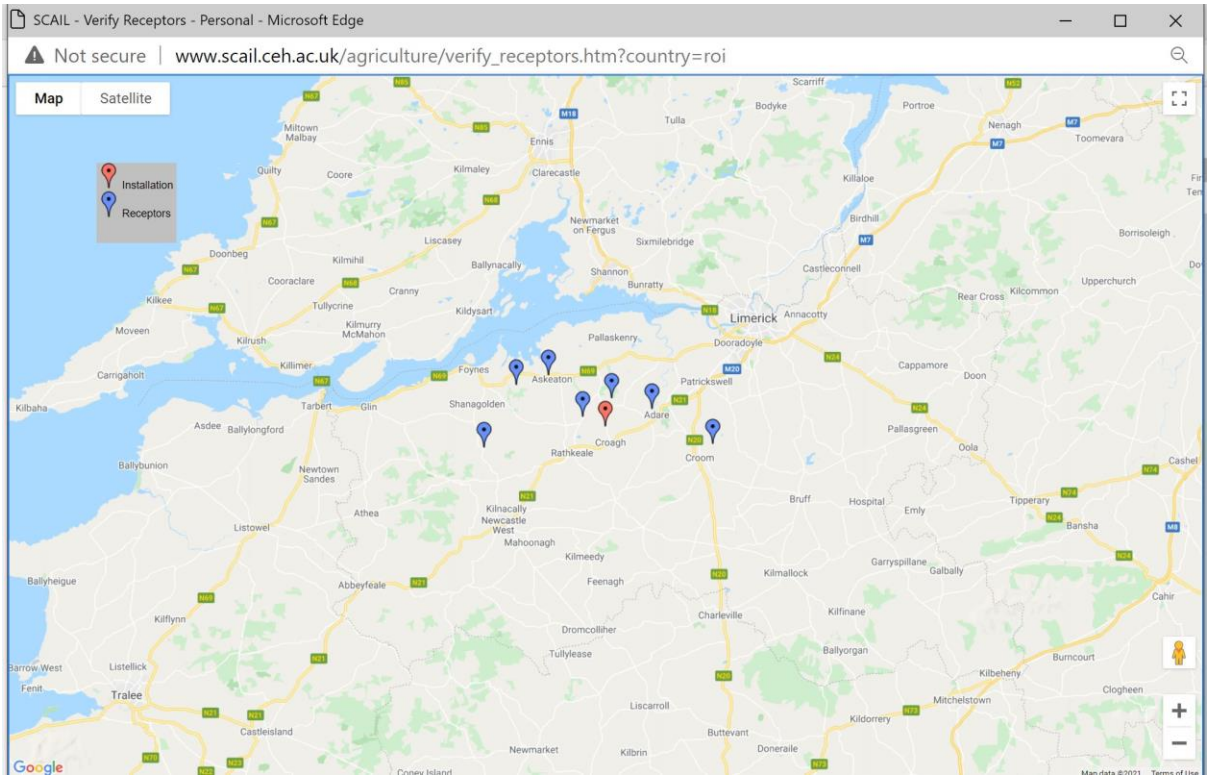


Figure 2: *Application site (red) in relation to Natura 2000 sites (blue).*

Please refer to the appropriate Assessment Screening Report contained in Appendix No. 16. The site of the proposed development is located in Shannon River Basin District. There will be no discharge of soiled water or effluent from the proposed development to surface water and so the proposed development will not have any significant impact on surface waters.

4.6.5 Mitigation Measures and Recommendations

A rodent control programme will be developed to cover the proposed development. The programme as implemented on site will be in line with Bord Bia and Department of Agriculture, Food and Marine requirements. Detailed records regarding bait point location, frequency of baiting and products used are to be maintained on site. No other pests will be attracted to the site due to the proper storage and disposal of all wastes, proper storage of all feedstuffs and maintaining the houses and external area in a clean and tidy manner. Note: Due to Covid, EcoLab are not being allowed on sites so since commencing operation of the current poultry house the applicant has been managing his own pest control as requested by Carton Brothers. Bait points are located around the house, checked regularly & refilled as required by the client.

Weed control will be carried out around the site as required to reduce any cover for pests. It is considered that the development, managed as is proposed, which will have to operate under licence regulations, will have no measurable impact on either flora or fauna outside the site boundary.

Given that the area of the proposed site is an intensively managed agricultural area with poor biological diversity, retaining as much as possible of the existing landscaping / hedgerow around the site boundary, together with any proposed additional landscaping, should maintain biological diversity on the site.

5.0 Effect on Groundwater and Surface Water

Adverse effect on groundwater from the proposed development should be nil, as there will be no process discharge to ground and any minimal risk of accidental leakage or spillage of polluting liquid on the site. The proposed development will be carried out on an impermeable concrete base, with proper storm and soiled water separation and collection facilities. It should be noted that the proposed development will operate on a dry manure basis, whereby the manure will be removed from the houses at the end of each batch and removed off site to Wexford composting on the same day. It will be managed as dry manure thus eliminating the risk of any leak to groundwater. The only soiled water from the proposed development will arise due to washing down of poultry houses.

The volume of water needed for the farm once the proposed development has been completed will be proportionate to the proposed stock levels. The existing water supply on the farm is from the local public water scheme which will also serve the proposed development. According to the Geological Survey of Ireland a borehole was drilled in 1998 c. 350m East of the proposed development Figure 3: *Groundwater Wells and Springs*. the groundwater classification appropriate to the site and the surrounding area has a vulnerability rating of High (H) vulnerability Figure 4: *Groundwater/Vulnerability Map.* As the proposed development will operate on a dry manure basis, whereby the manure will be removed from the houses at the end of each batch and removed off site to Wexford composting on the same day by a licenced contractor and all storm / soiled water will be collected onsite there is minimal risk to groundwater supplies in the area of the site.

There will be zero discharge from the site to surface waters as all storm / soiled water is and will be collected and stored onsite for reuse, soiled water for spreading on applicant's landholdings and storm water for reuse in washing operations onsite.

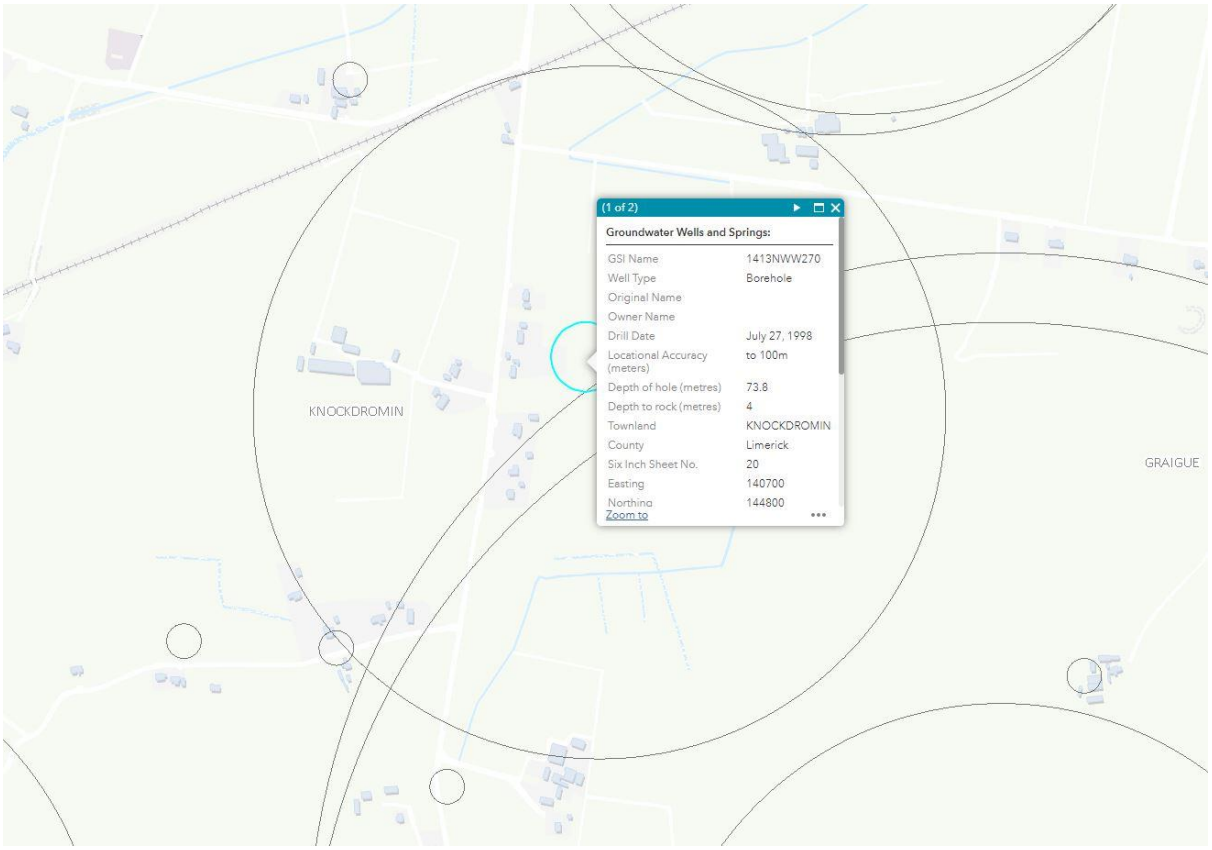


***Figure 3**: Groundwater Wells and Springs*

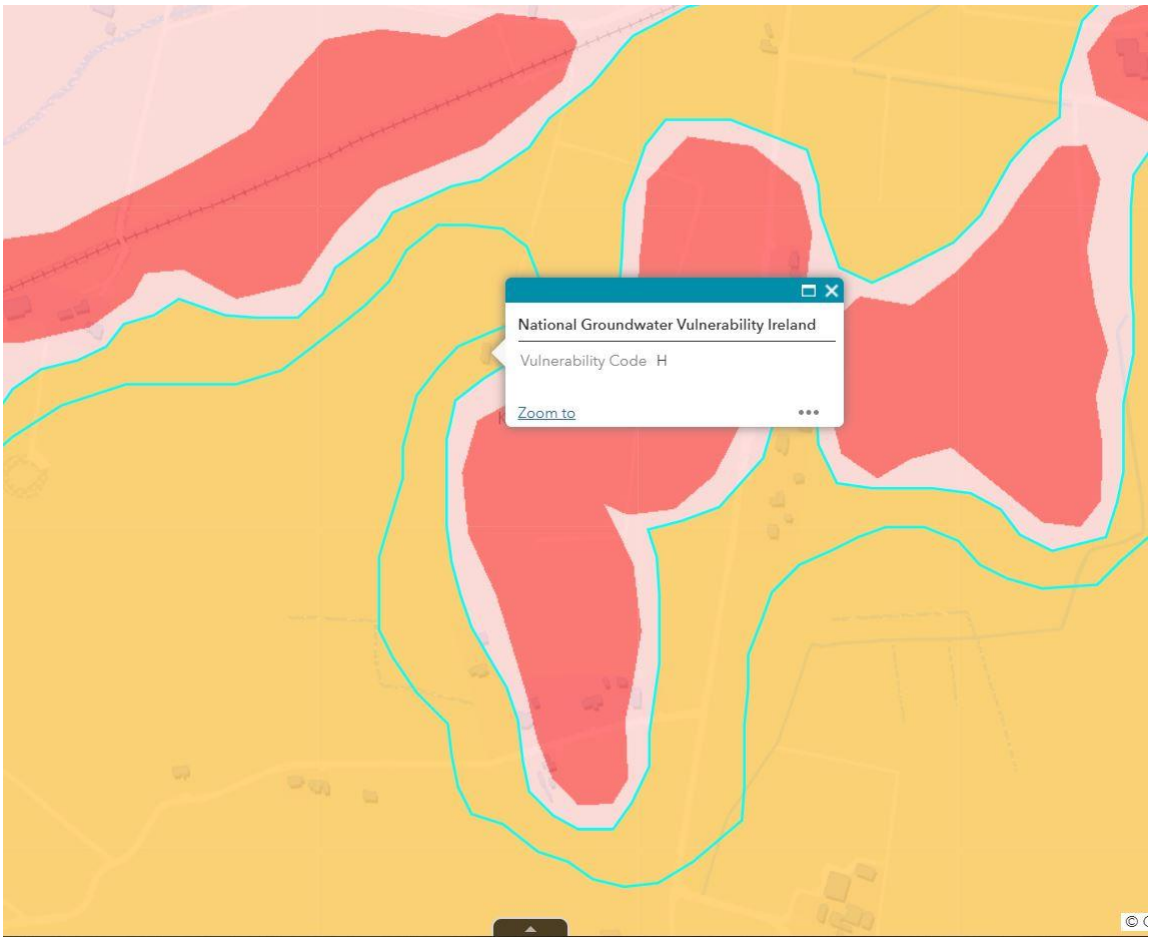


***Figure 4**: Groundwater/Vulnerability Map*

5.1 Direct or accidental discharge of waste or washings

The development through its operations produces a proportionately large volume of washings on days when the houses are being cleaned down. The washings are directed to wash water holding tanks from where the washings or soiled waters are vacuum tankered to available lands for land spreading. It is also possible that the waste material itself (in the form of a manure @ approximately 65% moisture content) could infiltrate the groundwater sources and cause pollution however given the very dry nature of the material and the extent of the concrete hard stand areas set aside for the loading of the waste material, the risk of environmental pollution occurring would be minimal.

The main risks posed to groundwater and surface water from the operations will arise from accidental / emergency spillage from either the collection network for the foul materials or from the on-site tankage. It is imperative that mitigation measures are installed at the site to pre-empt such occurrences.

5.1.5 Mitigation Measures

It is imperative that impervious hard standing is provided throughout the site to enable the full collection of surface water to the surface water collection network.

It is suggested that all provisions are made to ensure that no contaminated material is stored on a site in a fashion that may undermine the environmental security of the collection system.

All drains, guttering and other collection apparatus must be inspected at regular intervals. All tank and storage

vessels must be tested and a programme for tank and pipeline inspection should be initiated to mitigate against the risk of leakage.

The clean down operation poses a risk to the surface water system and full precautions should be taken to mitigate against the risk of spillage from the operation. This should include as a minimum:

- Functional high-level alarms and holding tank security
- High level over-flow collection where applicable
- Bunding of the entire treatment area to facilitate the capture of all liquids should any particular tank fail. This should be calculated to hold at least 110% of the capacity of the largest tank within the plant.
- Lockable valves should be placed on tanks to give added protection whilst loading or unloading the tanks.
- All other tanks within the facility must be bunded and all diesel tanks must have adequate spill proof dispensing operations to protect surface water amenity proximate to the site.

During Construction

- It is vital that there is no deterioration in water quality in the watercourses in the vicinity of the development ***Figure 5****: Surface Water Map*. This will protect both habitats and species that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the construction process to be implemented. No development works to take place near to any watercourse.
- Surface water run-off from the site (during construction) should be routed to the watercourses via suitably designed and sited sediment area / filter channels.
- Fuels, oils, greases and hydraulic fluids will be stored in bunded area well away from drains. Refuelling of machinery, etc., to be carried out in bunded areas.
- Stockpile areas for sands and gravel will be kept to a minimum size, well away from the drains.
- There will be no disturbance to the banks or habitats along the watercourses.
- There will be an amount of excavated soil from site development works which will be used within the site / landholding. Its use will not lead to the loss or damage of any natural or semi-natural habitats elsewhere and will not be spread close to any local watercourse.
- All hedgerows not directly impacted by the proposed developments should be protected and maintained.
- 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.
- Site preparation and construction should adhere to best practice.
- Any bulk fuel storage tank or fuel storage should be properly bunded with a bund capacity of at least 110% of that of the fuel tank.
- All proposed development works to be in accordance with the Department of Agriculture, Food and Marine minimum specifications and/or industry standards.

During Operation

- All activities on site to be carried out be in accordance with the Department of Agriculture, Food and Marine, Bord Bia, EPA, and Limerick City & County Council specifications and/or industry standards.

- All organic fertiliser generated on the site to be removed by a registered contractor for use elsewhere.
- All soiled water to be appropriately collected, stored and utilised in accordance with the requirements of S.I. 605 of 2017.
- All potentially polluting products (fuels, detergents etc.) to be stored in appropriately bunded areas.
- Stormwater discharge points to be checked and inspected on a weekly basis for any sign of contamination.
- Appropriate measures to be put in place to deal with any accidents etc. that have the potential to cause adverse environmental impact.

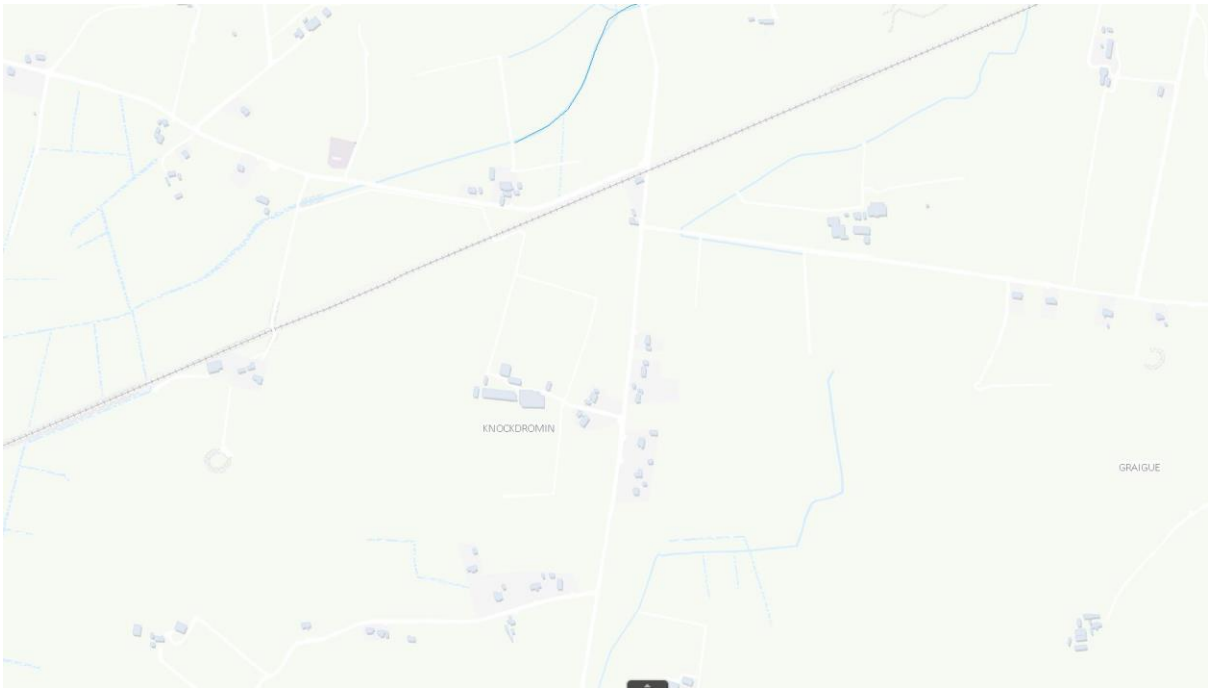


Figure 5: *Surface Water Map*

6.0 Effects on Air

The potential effects of the proposed development on air relate to the odour emissions that may be associated with poultry and poultry manure on site. Odorous emissions from the developed site are not likely to cause nuisance or impair amenity beyond the site boundary, with the possible exception of times when birds and/or manure is being removed from the site, which will occur at the end of each batch, approximately 5 times/annum.

A number of management practices will be implemented on site so as to minimise potential odour emissions from the proposed development.

- Proper storage of all wastes on site, and regular removal of same. Twice daily flock inspections to remove any fatalities from the houses and stored in proper sealed and covered storage bins.
- Thorough cleaning out of poultry houses to minimise odour and maintain high health status.
- Regular cleaning of outside areas.
- Immediate removal of manure off site, wherever possible. Transport of manure of site to take place in properly designed and covered trailers.
- Proper stocking rate within the houses.
- Proper management of temperature and humidity controls.

Management of operations on the site to prevent significant pulse releases of odour at times when the effect might be perceptible beyond the site boundary should ensure minimal impact on air in the vicinity of the site. See Appendix No. 14 for met data for this area.

As detailed previously the proposed development is located at its nearest point c. 210 m in off the local L8025 road, and at a significant distance away from any Natura 2000 sites and emissions (including gaseous emissions) from the proposed development are unlikely to adversely impact on same and/or on any other sensitive areas. It is the intention of the applicant to plant a 10m deep tree line along the entire width of the free range pasture area which will aid in the sequestering of emissions at source and also act as a visual screen obscuring the poultry house from view along its North Western side.

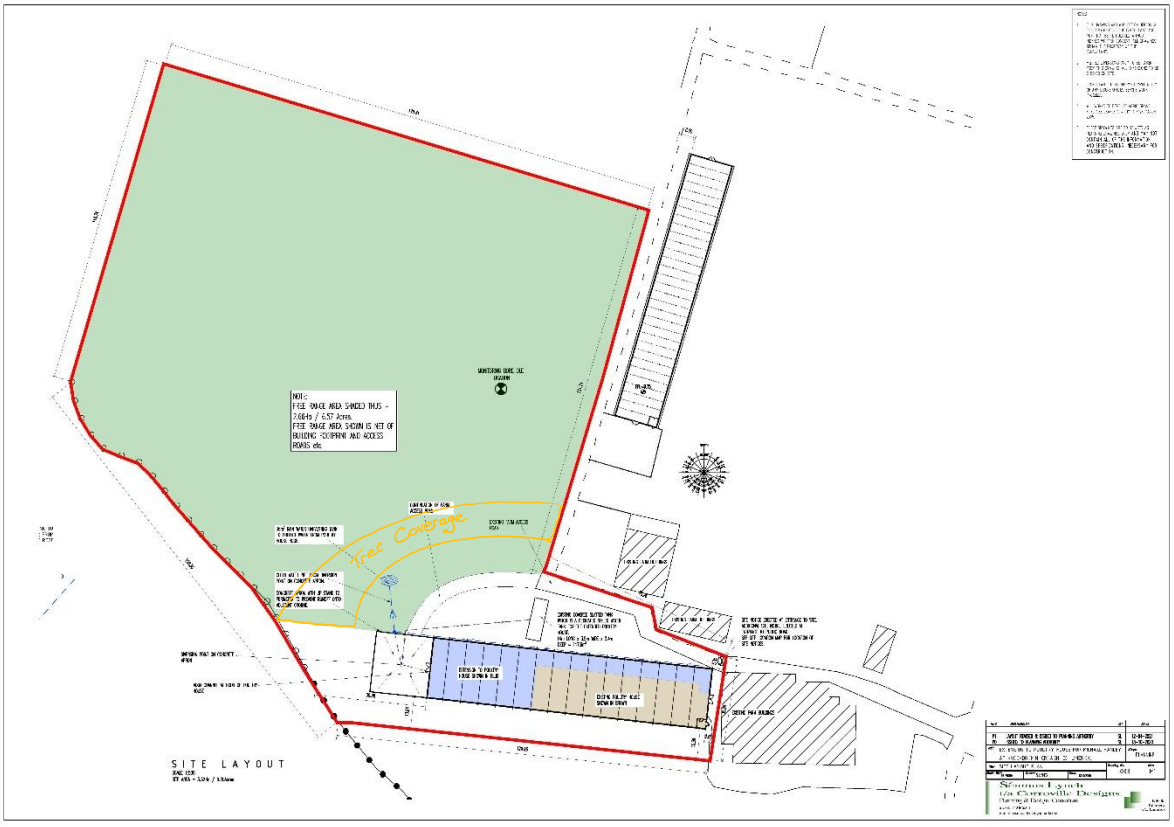


Figure 6: *Proposed Tree Coverage*

7.0 Effects on Climate / Climate Change

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. Met Data details can be found in Appendix No. 13. Wind direction at the site is critical to odour movements and rainfall is a critical factor in the application of manure. The prevailing wind in the West Limerick area is from the South-west. Rainfall in the applicant's farmlands ranges annually from 800mm – 1000mm.

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 poultry/pigs. This is as a result of the different digestive systems. *N2O* 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.

Organic fertiliser from this farm will be used in compost production by Wexford Composting or if required by customer farmers. The fact that the customer farmers utilising organic fertiliser from this farm will allocate it in accordance with the provisions of S.I. 605 of 2017, particularly with regard to amounts applied, weather and ground conditions at the time of spreading, and even application, etc., should ensure that emissions generated are kept to an absolute minimum. Dry manures will spread more evenly, and modern rear emptying muck spreaders are likely to be more precise that side discharging machines.

All customer farmers will be advised that in order to minimise any potential adverse environmental impact including odour/emissions, 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. 605 of 2017 and where possible incorporated/ploughed into the soil as soon as practicable after application.

All practicable steps, such as landscaping, management routines, planting of trees 10 m deep etc., will be planned for and will be taken so as to minimise odour from the site. Its rural setting and location distant from local residents will ensure no effect on human beings. The existing farm has operated with no adverse impact and no complaints from neighbours.

This development will have no significant adverse effect on climate.

8.0 Effects on Visual Aspects

Due to its location i.e., 210m in from the local road L8025 in a substantial natural dip in the landscape, screened on the roadside by farm buildings this development will have no significant adverse effect on the visual aspects of the locality approaching from the North on the adjoining road. The proposed development is visible from the local L8025 road approaching from the South East, however, every effort will be made by the developer to further obscure the poultry growing facility from the surrounding areas, by the planting of native trees along the entire length of the poultry house along the southern side if it is deemed necessary

9.0 Effects on Archaeological Cultural Heritage

There are no known archaeological sites within the site boundary and no reason to suspect the presence of such sites within the site of the proposed development. No indication of archaeological sites/features were observed as part of previous developments on this site.

10.0 Effects on 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.

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 to be completed on a greenfield site that currently is farmed by the applicant. The proposed development is surrounded by agricultural farmland. The proposed development will not interact with any lands 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 is a traditional farming practice in this area and 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. 470m of the proposed development site. The development will have no impact on adjoining property values if for no other reason than there is a significant distance between the proposed development and the residential locations.

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

The proposed development will require a portion of land upon which the proposed poultry house will be developed: however, there will be no adverse impact outside of the development area.

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 house, and potential adverse impact of same, is negligible when sourced from authorised sources.

The operation of the farm will require additional feed (classified as a renewable resource), gas 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 network, water or road infrastructure in the area.

11.0 Description of likely significant effects of the proposed development arising from:

11.1 The construction and existence of the proposed development

The proposed development is of average scale by current industry standards, but it would add to the economic activity on the farm, with consequent "trickle down" positive effect in the region and the local community, particularly with regard to construction workers, supply of construction materials, and the installation of the required housing, water, feed and ventilation systems.

Its impact on the landscape will be minimal following the implementation of proposals in relation to location, landscaping, proposed external finish and its integration into the site.

The long-term impact on traffic on the local road as a result of the proposed development will not have a significant adverse impact. Any short term increase in traffic would be associated with the construction of the proposed development and would cease upon completion of the proposed development.

Once the proposed development would be completed, there would be additional traffic (compared to current greenfield status) due to:

- Feed deliveries c. 1 (1*28 tonnes / week on average), (feed lorry capacity 28 tonnes / load)
- Manure transport c. 2 loads / batch on average (manure lorry capacity 30 tonnes / load)
- Bird deliveries / collections, gas and shavings deliveries (c. 10 – 13 loads / batch)

- Fortnightly waste collections and collection of mortalities.

This will result in an average of 6-8 movements / week in additional to daily attendance at the site by the applicant and additional traffic associated with cleaning of the houses, inspections, audits, etc.

Traffic to and from the site will be minimised by optimising load sizes. While there will be a minimal increase in traffic, when compared to greenfield status, this will not adversely impact on the local road network which will be more than adequate to accommodate same. The traffic flows will use the existing road infrastructure and therefore any proposed increase in traffic will not have an adverse impact on the local area.

11.2 The use of natural resources

There are no significant negative effects expected as a result of the proposed development in relation to the use of natural resources. As previously detailed the development will require a limited land area to facilitate the proposed development, however same will have no adverse impact on land, soil and/or biodiversity outside of the site area. While there are no processes involved that have a high requirement for fuel energy some ancillary heating will be required.
Gas heating will be provided during the early stages of each batch and the demand for heat will depend on local weather conditions at the time of stocking. Gas requirements will be minimised by high insulation standards and a modern efficient heating system.

The proposed development will have a definite requirement for a supply of water readily available from the local public water scheme, during the construction stage and once completed there will be additional water used on the farm as a result of the proposed development.

The main reason to be consumed would be poultry feed, which is classified as a natural resource that is renewable resource. The consumption of feed and water will be proportionate to the stock numbers on the farm.

11.3 The emissions of pollutants (noise, vibration, light, heat, radiation etc.)

Clean storm water will be collected and stored for reuse: Washing of poultry houses, farm equipment etc. onsite. Such clean water is not an emission. Site management is to be focused on ensuring that all storm water collection surfaces and facilities are maintained in clean and fully functional condition at all times so that the possibility of storm water carrying significant pollution to the surrounding surface waters is effectively eliminated.

The emission of pollutants is to be effectively controlled and prevented by the regular removal of all solid waste materials from the site to authorised disposal/recovery sites elsewhere, and by the removal of poultry manure off site by the experienced contractor. Accordingly, it is expected that there should not be any significant emissions of the pollutants from the site and that there should be no perceptible environmental effect arising from emission of pollutants from the site.

With regard to the above and due to the nature of the proposed development, there will be no increase in the amount of wastes/potential pollutants produced or used on the farm, and/or no significant increase in noise, vibration, light, heat and/or radiation that would lead to significant adverse environmental impact.

The additional organic fertiliser/poultry manure to be produced will be utilised as resource ingredient for Wexford Composting and/or as an organic fertiliser and will be removed from the site by an experienced licenced contractor. All soiled water to be allocated to the applicant's landholding c. 200acres.

11.4 The creation of nuisance

The proposed development combined with the existing activities on the farm, which will be carried out in accordance with the management and operational routine proposed, and in line with E.P.A., D.A.F.M., Bord Bia and Limerick City & County Council requirements, is not expected to create any significant nuisance.

11.5 The elimination and/or disposal/recovery of waste/by-products

The net increase in the volumes of waste/by-products materials to be generated as a result of this proposed development will not cause a significant adverse environmental impact, as all waste streams are to be minimised by implementing good practice measures on-site and any wastes that cannot be eliminated will be disposed/recovered in line with existing requirements including to approved disposal/recovery sites, and/or approved carriers.

The volume of organic fertiliser/manure (by-product) produced will be minimised by efficient cleaning out and the use of high-pressure low volume pressure washers, in any event adequate measures for the collection, storage, management and use of these materials have been identified previously, thus ensuring that there is no adverse environmental impact from same. The opportunity to eliminate any of the waste products does not exist.

The opportunity to reduce the volume of waste materials below, that which are generated under Good Farming Practice and which will be generated on this farm once the proposed development is completed is very small and is near zero. For example, some birds die prematurely in the site. The proposed cleaning, hygiene, disease control and restricted access measures that are to be implemented on site will minimise this risk. Accordingly, the waste that is dead birds cannot be eliminated and cannot realistically be planned to reduce below the level achievable under current best practice.

11.6 The risk to human health, cultural heritage or the environment (for example due to accidents or disasters)

The potential risk to human health / cultural heritage and/or the environment due to accidents and/or disasters is limited to the innate nature of the production system and activities on-site. There is no significant high risk/hazardous products used, produced and/or released by the proposed development which would pose a risk to human health, cultural heritage and/or the environment outside of the site boundary as a result of any accident/disaster.

11.7 Class A Disease

In the event of a Class A disease many animals will be slaughtered, possibly both on infected farms and in preventative slaughter of dangerous contact and contiguous premises.

There are two major considerations to be taken into the account in deciding on the method of disposal to be used for the slaughtered animals:

1. Preventing the spread of the disease/virus
2. Minimising damage to the environment

In respect of environmental damage, the methods of disposal in order of preference are, render, bury and burn. The location and extent of any initial outbreak of a particular disease will determine which method of disposal is used, however this will be dictated by individual circumstances. The disposal strategy to be employed will be decided by the department of Agriculture, Food and Marine in consultation with the National Expert Epidemiological Group. The preferred option for the disposal of carcasses from this farm site is rendering.

11.8 The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change

Large livestock populations and nitrogen inputs to soil generate c. 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 poultry/pigs. This is as a result of the different digestive systems.

N2O emissions can be divided into three areas:

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

The fact that the farmers in the proposed customer farmer list (i.e the applicant) are allocating organic fertiliser in accordance with the provisions of S.I. 605 of 2017 particularly with regard to amounts applied, weather and ground conditions at the time of spreading, and even application, etc., should ensure that emissions generated are kept to an absolute minimum. Dry manures will spread more evenly, and modern rear emptying muck spreaders are likely to be more precise than side discharging machines.

In addition, the proposed development will be designed, managed and operated so as to minimise energy (gas and electricity) use on the farm, thus minimising any greenhouse gases associated with energy use.

As the birds will be maintained in a controlled environment with the proposed house, the operation of the farm is not directly significantly susceptible to climate change, however climate change may impact on energy use associated with heating/ventilation systems to maintain a controlled environment within the house relative to outside climatic conditions and may have implications for feed supply to feed the birds.

11.9 The forecasting methods used to assess the effects on the environment.

Forecasting relies heavily on the accumulated experiences of current operations on the existing site, operations in similar developments and on the knowledge that wastes removed from the site for disposal or recovery elsewhere will have negligible impact on the environment around the proposed development.

The applicant has been involved in farming for a large number of years and has had no incidents with regard to the effect of this enterprise on the local environment.

Taking into account that poultry farming is a traditional and widespread farming activity in Co. Limerick and that this proposed development will comply with the Nitrates Directive, the applicant is fully confident that the proposed development will have no significant adverse effect on the local environment.

11.10 Cumulative and Transboundary Effects

This proposed poultry farm is located Co. Limerick, a county well recognised for its intensive agricultural sector. The site is located c. 5 km from the River Maigue. The closest poultry farm to the proposed development is c. 1.7 km away to the South East of the applicant's site. The closest EPA licenced site is c. 19.87 km North West from the site of the proposed development.

It is anticipated that the proposed development at this site will not lead to a transboundary effect due to the fact that in the main all wastes/by-products will be managed responsibly in line Limerick City & County Council, E.P.A. and/or Department of Agriculture, Food and Marine requirements and utilised/disposed of/recovered within the country at designated and approved sites and/or in accordance with relevant legislation.

In addition, the Natura Impact Statement *Appendix No. 17- Natura Impact Statement* has confirmed no potential adverse impact on Natura 2000 sites in Ireland.

The proposed development will not have a cumulative adverse impact on the local environment. It has been demonstrated by the applicant that the existing farming activities that are carried out on-site are done so with no significant adverse impact on local environment and in compliance with S.I. 605 of 2017. Due to the fact that all manure is to be moved off site and appropriate measured are in place to address wastes arising on the farm, it is anticipated that this development would not adversely impact on the local environment within the West Limerick area when assessed individually and/or cumulatively with other such developments in this area.

11.11 Inter-relationships

As a requirement of the European Communities (Environmental Impact Assessment) Amendment Regulations, 1999 (S.I. No. 93 of 1999) (as amended) not only are the individual significant impacts required to be considered, but so must the inter-relationships between these factors be identified and assessed.

Part ii (second schedule) of the regulations requires that the interactions between human health / population, Biodiversity (Flora and Fauna), Land/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 poultry house have been considered in detail in the relevant Chapters of the E.I.A.R. In order to demonstrate the area in which significant interactions occur a matrix has been prepared see Table 5 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 column (the impactor), which contains the list of aspects of the environment likely to be significantly affected by the proposed development these have been indicted. A distinction has been made between positive, negative and neutral impacts in this matrix.

Table 5: *Matrix Indicating Inter-relationships between EIA Factors.*

	Land/ soil	Water	Air & Climate/ Climate Change	Landscape & Visual	Noise	Traffic / Roads	Biodiversity (Flora and Fauna)	Human Health / Population	Cultural Heritage	Material Assets
Land/ 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/ Climate Change	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 / Roads	N/a	N/a	N	N/a	N		N/a	N	N/a	N/a
Biodiversity (Flora and Fauna)	N/a	N/a	N/a	N	N/a	N/a		N/a	N/a	N/a
Human Health / Population	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		N/a
Material Assets	N/a	N/a	N/a	N/a	N/a	N/a	N/a	Pos	N/a	

Neutral	N
Positive	Pos
Negative	Neg
Not Applicable	N/a

11.11.1 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 Land / Soil on Human Health / Population*** – the proposed poultry farm will provide for a supply of poultry manure which is a valuable fertiliser used by customer farmers to offset the cost of purchasing chemical fertiliser, and as a resource ingredient in the compost industry. The supply of organic manure will result in a financial gain to the recipient farmers and therefore a net impact of the proposed development.

- ***Impacts of Human Health / Population on other Factors*** – The increase in wealth as a result of the operation of the farm would mean that there will be funds available to facilitate improvements through human endeavour in the following factors Land / Soil. Water, air & Climate / Climate Change, Landscape & Visual, Biodiversity (Flora and Fauna) and cultural heritage. Improvements in Land / Soil can be achieved through the addition of organic fertiliser, improvements in water through improved management and separation of storm and soiled waters, improvements in air through better manure management processes, improvement in Biodiversity (Flora and 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. The impact on human health / population will ultimately result in improvements to material assets.

11.11.2 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 Land / Soil on Water, Landscape & Visual and Biodiversity (Flora and Fauna)*** – The organic fertiliser will have a positive overall impact on Land / Soil adding additional nutrients. However, there is a 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. 605 of 2017 and excessive application of the organic fertiliser will not occur.
  The positive impact on Land / Soils in the customer farmland areas will potentially see a change in landscape through the improvements in field pastures, this may be viewed as a slightly positive impact overall and any changes will be minimal through compliance with S.I. 605 of 2017, as this organic fertiliser will used to replace chemical fertiliser. The changes in Land / Soil may result in a reduction in diversity of biodiversity (Flora and Fauna) in receiving lands. However, all lands proposed for receipt of organic fertiliser 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 Air & Climate / Climate Change on Biodiversity (Flora and Fauna) and Human Health / Population** – There is a potential threat to Biodiversity (Flora and Fauna) and Human Health / Population as a result of any impact on air due to the proposed farm. The generation of mal-odour on site may have a slight negative impact on Biodiversity (Flora and Fauna) and in particular on human health / population, however this is mitigated by the fact that the proposed development location is in excess of 130m from any existing third party dwelling. Adequate mitigating measures have been described in this E.I.A.R. to ensure that this threat does not materialise and thereby ensuring the potential impact is neutral.

11.11.3 Potential Impacts and Mitigation Measures

This section presents the significance of potential impacts following the implementation of mitigation measures. The E.P.A. classifies impacts in the recently published E.I.A.R. Guidelines as follows:

IMPACT		DESCRIPTION
Quality of Effects	**Positive Effects**	A change which improves the quality of the environment
	Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of farecasting error
	Negative Effects	A change which reduces the quality of the environment

Describing the Significance of Effects	**Imperceptible**	An effect capable of measurement but without significant consequences.
	Not significant	An effect which causes noticeable changes in the character of the environment but without affecting its sensitivities
	Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
	Significant Effects	An effect which by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Very Significant Effects	An effect which by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Profound Effects	An effect which obliterates sensitive characteristics

Describing the Duration and Frequency of Effects	**Momentary Effects**	Effects Lasting from seconds to minutes
	Brief Effects	Effects Lasting less than a day
	Temporary Effects	Effects Lasting less than a year
	Short-term Effects	Effects Lasting one to seven years
	Medium – term Effects	Effects Lasting seven to fifteen years
	Long-term Effects	Effects Lasting fifteen to sixty years
	Permanent Effects	Effects Lasting over sixty years
	Reversible Effects	Effects that can be undone, for example through remediation or restoration
	Frequency of Effects	Describe how often the effect will occur, ((once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually))

Describing the Extent	**Extent**	Describe the size of the area, the number of sites and the proportion of a population affected by an effect

and Context of Effects	**Context**	Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Describing the Probability of Effects	**Likely Effects**	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Interactions between the above environmental factors shoe the potential effect of the poultry farm on the community and its environs. Human beings are the main impact receptor, flora and fauna being the other. The poultry 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. The poultry farm with its planned integration into the existing farming activities, and the associated fertiliser substitution programme will have no significant impact on the rural community.

	Category	Potential Env. Issues/Effects	Potential Impact ~ Site	Potential Impact ~ Customer Lands	Duration	Mitigation	Residual Impact
Natural Environment	Terrestrial						
	Biodiversity (Flora and Fauna)	Destruction/loss of habitats	Neutral	Neutral	Long-term	Existing site of no significant ecological importance. Organic fertiliser to replace chemical fertiliser in accordance with S.I. 605 of 2017, no impact, Integration with existing farm enterprise.	None
		Eutrophication	Negative	Neutral	Long-term	High quality development and storm water discharge systems. Nutrient balance / organic fertiliser substitution. Organic fertiliser will replace chemical fertiliser.	Slight
	Fresh water / Groundwater	Risk of contamination	Negative	Neutral	Long-term	Fertiliser planning / Composting / Codes of Good Practice applied (S.I. 605 of 2017, customer farmlands)	Slight
	Landscape	Visual impact	Negative	Neutral	Long-term	Site low set in a natural substantial dip in the the landscape. Low finished floor level relative to average ground level. Properly landscaped.	Slight
	Archaeology	Disturbance of archaeological finds	Neutral	Neutral	Long-term	No archaeological finds within the site from previous development. Site not located near to, or likely to impact on any archaeological sites.	Neutral
	Climate / Climate Change	Contribution of greenhouse gases	Positive	Neutral	Long-term	Poultry production is less harmful than ruminant production in terms of methane emissions. Organic manure will replace inorganic fertilisers eliminating manufacturing / transport energy use. Integration with existing farming activities.	None
Human Health / Population	Land / Soil	Fertiliser substitution	Neutral	Positive	Long-term	Loss of agricultural land (site), however not significant due to the limited area. Improves profitability by reducing costs and improving output. Integration with existing farming activities.	None
	Community	Application of manure	Neutral	Neutral	Long-term	Significant requirement for additional organic fertiliser.	None
		Vermin and pest infestation	Negative	Neutral	Long-term	Control programme to be practised on the farm in line with Bord Bia requirements.	None
		Fire hazard	Negative	Neutral	Long-term	Fire Points / extinguishers / staff training	None

	Traffic	Long – term increase in traffic	Negative	Neutral	Long-term	Inward / Outward traffic primarily during working hours. Minimise traffic volumes by optimising load sizes, synchronising 2 No. poultry houses life cycles. Additional short-term peak during construction	Slight
	Noise	Stock Noise at feeding/ moving. Feed deliveries / manure removal	Negative	Neutral	Long-term	Prioritise activities during working hours. Remote location: set back c. 210m from the local L8025 road	None
	Air	Generation of Odours	Negative	Neutral	Short - term	Adherence to Code of Good Practice to Reduce Odour Emissions when spreading soiled water. High standard of housing and management and washing between batches. Buffer zones from sensitive dwellings / areas	None
	Tourism / Amenities	Landscape	Neutral	Neutral	Long-term	Site location will have no impact on the environment	None
		Water Quality	Neutral	Neutral	Long-term	High standard of development and management / Fertiliser planning / Buffer Zones / Codes of Good Practice applied / Integration with existing farming activities.	None
	Material Assets	Reduction in material / residual quality	Neutral	N/A	Long / short-term	Site location will ensure that there is no negative impact on the material assets of the area	None

11.11.4 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/poultry developments and well understood. In addition, the main principles are substantially similar to that already in practice on numerous other farms locally and throughout the county, and as previously approved by Limerick City & County Council for this site, albeit at a reduced scale. 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. As stated previously, this planning application and Environmental Impact Assessment Report, relate to the proposed development of 1 No. poultry house on a greenfield site plus all associated site works and ancillary structures.

The operation of the existing farm in conjunction with the proposed development will be carried out in accordance with the requirements of Limerick City & County Council, the E.P.A. The Department of Agriculture Food and Marine and Bord Bia to achieve maximum efficiency, flock performance and environmental standards.

11.12 Description of measures envisaged to avoid, reduce, prevent or if possible, offset any identified significant adverse effects on the environment.

The following best practice / mitigation measures have been proposed to reduce any potential adverse impact, significant, or otherwise:

I. Provision of sufficient and safe access to the site and measures to avoid excessive soiling of the public road during construction on the site.
II. Preservation of existing trees and hedgerows surrounding the site together with sympathetic design and layout so as to screen the installation from obtrusive view and to allow it to be absorbed into the rural landscape.
III. Provision of a storm water collection / storage system to properly collect all clean rainwater from roofs and clean surfaces for reuse onsite for washing of poultry house, farm machinery etc., as described in Appendix No. 3 and Appendix No. 16.
IV. Provisions of soiled water drains to properly collect any effluent or soiled water and divert it to the nearest soiled water tanks.
V. The collection and the removal from the site of all manure. All soiled waters to be collected and used on farmland in accordance with S.I 31 of 2014.
VI. All construction waste to be managed in accordance with the Construction and Demolition Waste Management Plan contained in Appendix No 18.
VII. Appropriate collection and removal from the site of waste materials generated on the site. Record and maintain records of all consignments of waste despatched from the site in accordance with requirements.
VIII. The collection and the removal from the site of all dead animals and all animal tissues. A small proportion of the birds maintained on the farm die prematurely. These carcasses are and will be stored in a covered sealed container on site, awaiting collection by an authorised contractor.
Wards Waste Ltd is an authorised contractor who regularly removes these carcasses, and any other such material to his authorised By-Products plant at Tournafulla, Co. Limerick, in compliance with existing requirements. Correspondence in this regard is included hereafter, in Appendix No. 6. Ensure collection of animal tissue removal so as to ensure minimal generation or release of odours either at the site, or during transit to the disposal/recovery destination.
IX. Comprehensive cleaning and hygiene routine to minimise potential odour from the site.
X. Specially formulated diets to maximise performance and reduce nutrient excretion. See Appendix No. 9.
XI. Proper maintenance and inspection procedures and reduce that all feeding, water supply, manure

removal, and ventilation systems are working to maximum efficiency, ensuring manure is maintained as dry as possible and minimising energy (electricity and gas) consumption.

Implementation of the above will ensure that significant effects on the environment will be avoided and the risk of incidents of environmental significance will be near zero.

12.0: Environmental Management Programme

12.1 Introduction

The applicant will implement and maintain a comprehensive monitoring programme on site to provide maximum protection for the environment. This plan will in effect be governed by the requirements of the E.P.A., as detailed in any licence issued to this farm, and by the applicant's requirements under the environmental legislation such as S.I. 605 of 2017. The management plan will involve, but is not limited to, 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 poultry farm. Any recommendations of the planning authority will be compiled with in relation to this Environmental Management Programme.

12.2 Organic Fertiliser 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. 605 of 2017 are met in full by the applicant. This will include:

- The allocation of fertiliser to a registered specialist contractor for use in accordance with the requirements of S.I. 605 of 2017.
- Proper separation of all clean water on site, and the collection of all soiled water in the soiled water storage tanks.
- Continuous recording of all organic fertiliser transfers off the farm (as per the record 3 form developed by the Department of Agriculture Food and Marine, and the submission of all records to the Department of Agriculture Food and Marine, as required.

12.3 Organic Fertiliser Management Programme

I. <u>Work schedule for fixed structures</u>

- A maintenance programme for all structures and systems to be implemented to ensure that same are operating to maximum efficiency.

II. <u>Monitoring Fixed structures for the following:</u>

- Checking soiled water and clean water drainage systems for deterioration, leaks and blockages

III. <u>Monitoring and analysis.</u>

- Storm water emissions points to be visually inspected and recorded on a weekly basis.
- Soiled Water Storage Tanks – To be monitored and recorded as required for remaining storage capacity.
- Noise, Odour and Dust emissions not to cause an adverse environmental impact outside of the site boundary. As per previous licences issued by the Agency the EPA licence required for this farm will have specific requirements/conditions pertaining to odour/noise and dust to be complied with.

12.3 Assessment of Operational Phase Impact Pathways

Hydrological pathways
None exist between the proposed development and the identified Natura 2000 sites.

On-Site during Operational Phase

The main potential threat to groundwater in the vicinity of the unit is due to the storage of soiled water on site in underground storage tanks. Current storage capacity amounts to 117.6 m^3 onsite. Projected volumes of soiled water from the operation of the poultry house is c. 125 m^3 / annum. The current storage capacity is more than adequate to fulfil the requirements of the operational phase of the proposed poultry unit.

All storm water will also be collected in underground storage tanks for reuse for all washing operations onsite.

Off-site during Operational Stage

This Poultry unit when fully developed is estimated to produce c. 125 m^3 of soiled water annually. The spread-lands on to which this soiled water is utilised are situated in the Croagh area of west Limerick. The application of manure to farmland is regulated under S.I. 605 of 2017 and distribution of soiled water from this Poultry Units will comply with this regulation.

This facility is entitled to supply manure to any local farmer who wants it and is obliged to record all dispatches from the holding. Furthermore, the farmers acquiring manure are obliged to record all dispatches from the holding.

However, like accidental spills and leaks from the unit, manure which is land-spread off site can cause adverse impacts to habitats and water quality if discharged directly to groundwater and/or surface water. Additionally, manure which is land-spread in unsuitable conditions or not adhering toEU (Good Agricultural Practice for the Protection of Waters) Regulation S.I. 605 of 2017 can leak into groundwater and/or surface waters.

Construction Phase

Pollution of habitats during construction phases will be avoided and/orminimised to a non-significant risk by the implementation of the following mitigation measures:

- Where pumping of water is carried out, filters will be used on the suctionside to discharge through a sediment trap.
- Training of site managers, foremen and workforce, including all subcontractors, in the pollution risks and the preventative measures.
- Where possible prevent water from entering excavations. Use cut-off ditches to prevent entry of surface water and well point dewatering or cut-off walls for ground water. Use the corner of the excavation as a pump sump and avoid disturbing that corner. Do not allow personnel or plant to disturb water in the excavation
- Minimise the amount of exposed ground and stockpiles. Stockpiles can beseeded or covered and silt fences constructed from a suitable geo-textile may be useful
- Diesel pumps and similar equipment should be placed on drip trays tocollect minor spillages. These should be checked regularly, and any accumulated oil removed for disposal.
- Access roads should be regularly brushed or scraped and kept free fromdust and mud deposits. In dry weather dust suppression measures may be required
- The risk of spilling of fuel is at its greatest during refuelling of plant.

  Where possible, refuel mobile plant in a designated area, preferably on an impermeable surface and away from any drains or watercourses. A spill kit should be readily available, vehicles should never be unattendedduring refuelling or delivery valves should never be forced open, hoses and valves are regularly checked for signs of wear and ensure that they are turned off and securely locked when not in use.
- Concrete is highly alkaline and corrosive and can have a devastating impact on watercourses. It is essential to take particular care with all works involving concrete and cement especially if working near a river, stream or surface water drain. Suitable provision should be made for thewashing out of concrete mixing plant or ready mix concrete.

Operation Phase

Avoidance/Minimisation of Hydrological Emissions

On-site during the Operational Stage

In order to ensure that the project does not result in hydrological emissions to groundand/or surface water bodies, the following measures will be implemented:

- All proposed tanks will be constructed to Department of Agriculture, Food and theMarine standards for the construction of farm buildings
- The provision of a substantial amount of excess soiled water storage capacity.
- A leak detection system will be provided under all new structures and facilities. Aregular inspection will be carried out of monitoring points, and records of these inspections will be maintained onsite.
- The preparation of a revised Emergency Plan detailing the procedures to be undertaken in the event of a chemical, fuel or other hazardous waste spill, a fire ora noncompliance incident which any permit of licence issues. Ensure all staff is trained in the implementation of the Emergency Response Plan and the use of any spill control equipment as required.
- Separating clean and dirty water on farms in order to improve the efficiency of the storage of soiled water and to reduce the risk of dirty/contaminated water entering the surrounding environment. All storm water from hardcore areas and roofs will be diverted to a clean water underground storage system.
- The management of the extraction of soiled water from the storage tanks will becarried out using best practice techniques ensuring no accidental spills occur.

Off-site during the Operational Stage

In order to minimise risks to water it is essential that careful planning is done regarding theapplication of soiled water to land with consideration to weather, drain flow, soil conditionsand field situation to reduce the risk of manure reaching water.

Poultry litter produced at this facility will not have any adverse impact on environmentalparameters either inside or outside the site.

- The application of soiled water will be carried out using vacuum tanker fitted with alow trajectory splash plate.
- Spreading will not take place:

On wet or waterlogged ground
On frozen or snow covered groundOn exposed bedrock
Where surface gradients are excessive (preferably <18% (1:5)On fields that display cracks overpipe or mole drained system
On fields that have been piped or mole drained or subsoiled over a pipe ormole drainage system in the last 12 months
Outside daylight hours
In a manner which would have an adverse effect on a National Monument

- In accordance with the EU (Good Agricultural Practice for the Protection of Waters)Regulations 2014 – S.I. 605 of 2017, the following measures will be adhered to with regards to land spreading of manure:

(a) subject to sub-article (5), 200m of the abstraction point of any surface watercourse, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 100m3 or more of water per day or serving 500 or more persons,

(b) subject to sub-article (5), 100m of the abstraction point (other than an abstraction point specified at paragraph (a)) of any surface watercourse, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying10m3 or more of water per day or serving 50 or more persons,

(c) subject to sub-article (5), 25m of any borehole, spring or well used for the abstractionof water for human consumption other than a borehole, spring or well specified at paragraph (a) or (b),

(d) 20m of a lake shoreline,

(e) 15m of exposed cavernous or karstified limestone features (such as swallow-holes andcollapse features),

(f) subject to sub-articles (8) and (9), 5m of a surface watercourse (other than a lake or asurface watercourse specified at paragraph (a) or (b)),

(g) the application of manure will not be applied 10 meters or nearer of any dwellinghouse save with the express approval of the inhabitants in writing,

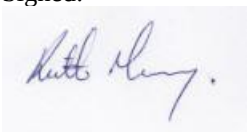
(h) no spreading of soiled water will be permitted in windy and/or extremely wet weather,close by dwelling houses (100m) or public roads (10m).

13.0 Summary

This proposed development involving the construction of 1 No. poultry house together with ancillary facilities has been subject to Environmental Impact Assessment in accordance with requirements under the Planning and Development Regulations 2001 (as amended). This resulting E.I.A.R. has been prepared in order to provide the planning authority with the necessary information to make a decision on this planning application.

The proposed development as outlined will make a significant positive contribution to the rural economy of Co. Limerick and will serve to increase employment and secure the viability and competitiveness of the applicant's farm enterprise, as well as the wider poultry farming industry. The development will not give rise to any significant environment effects. The proposed development will be constructed and operated in accordance with the details laid out in the E.I.A.R., AA & Natura Impact Statement and will adhere to conditions imposed as part of any grant of planning permission and E.P.A. Licence for this farm.

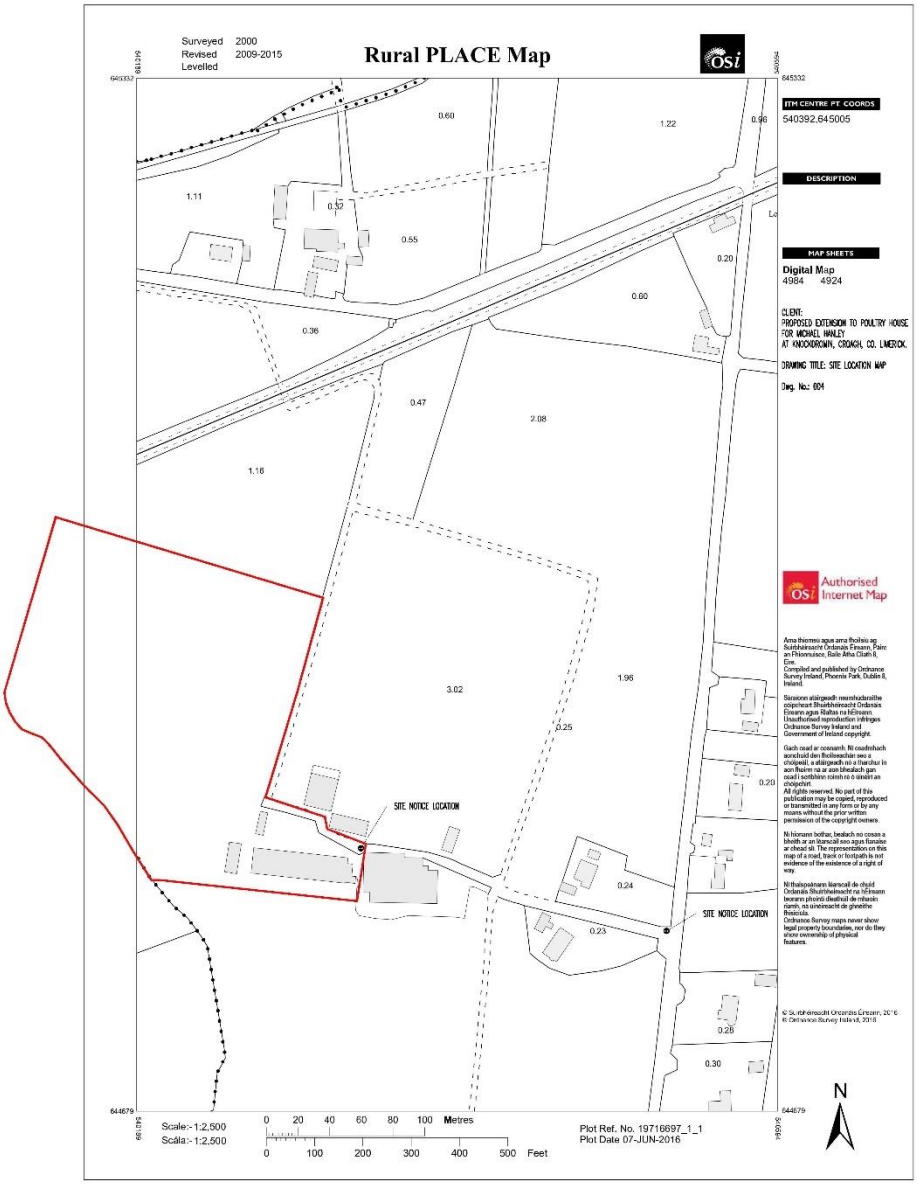
Signed:



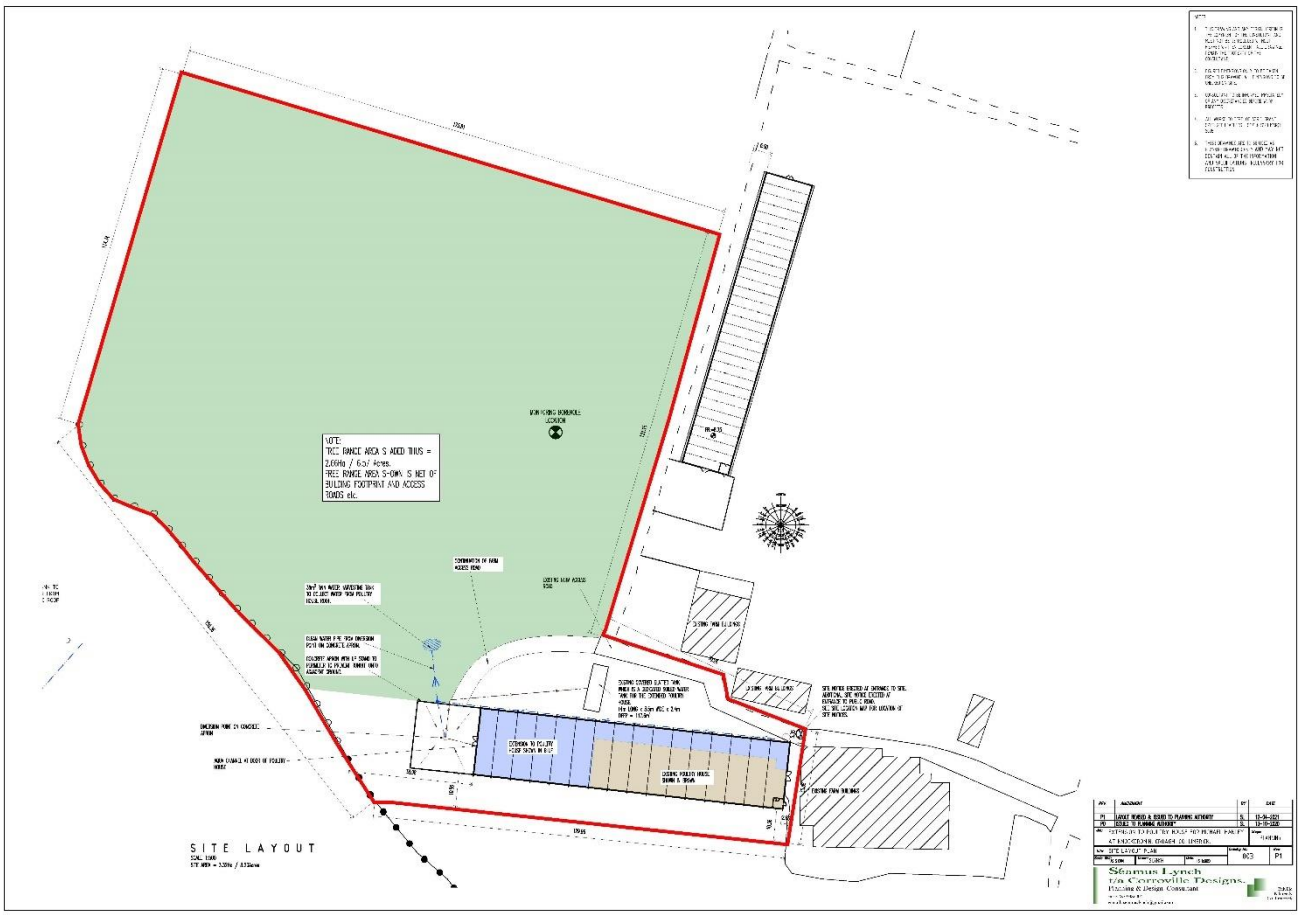
Keith Massey B. Env. Sc. (hons) SIIRSM

Date: 16 / 04 / 2021

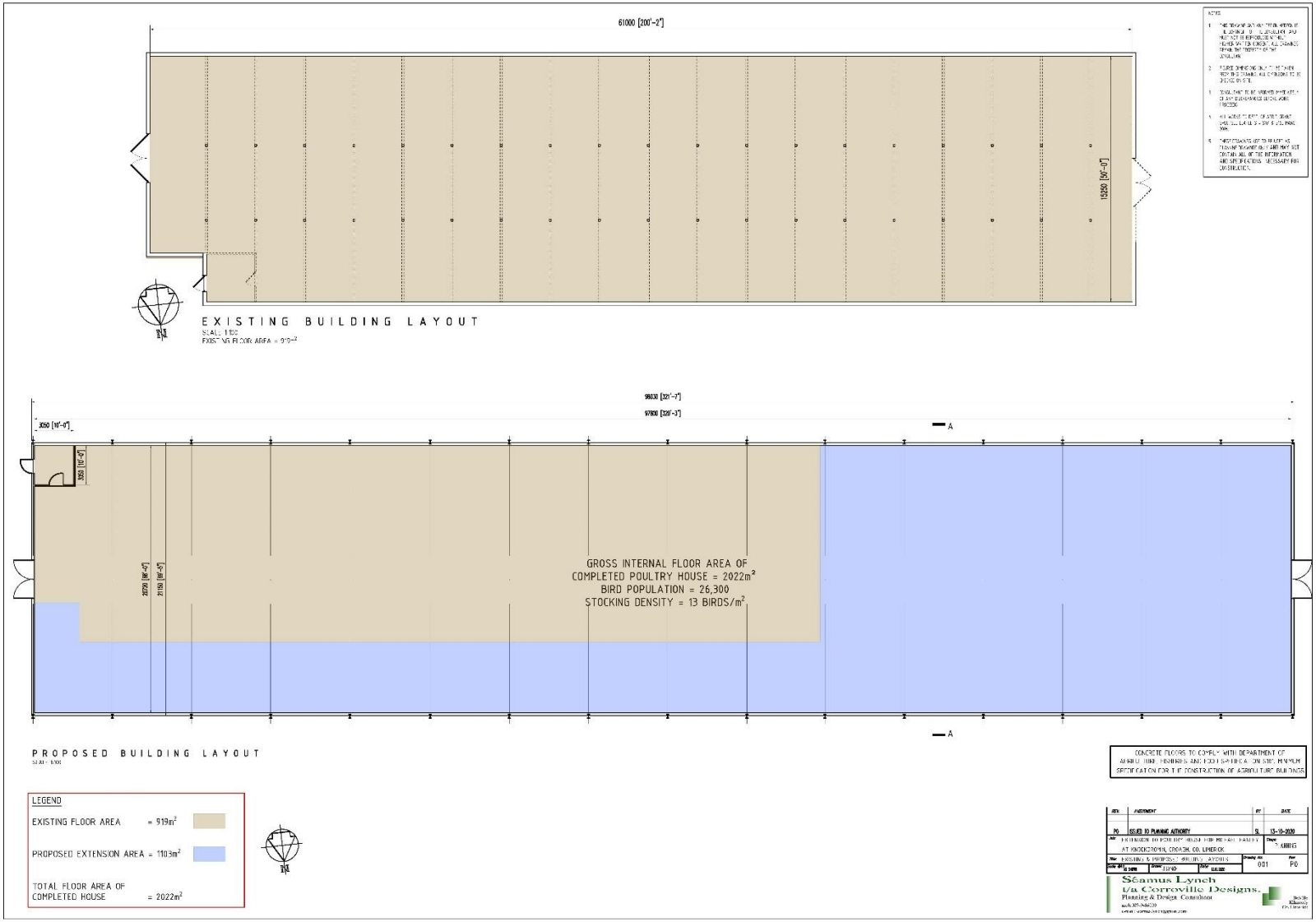
Appendix No. 1 – Site Location Map

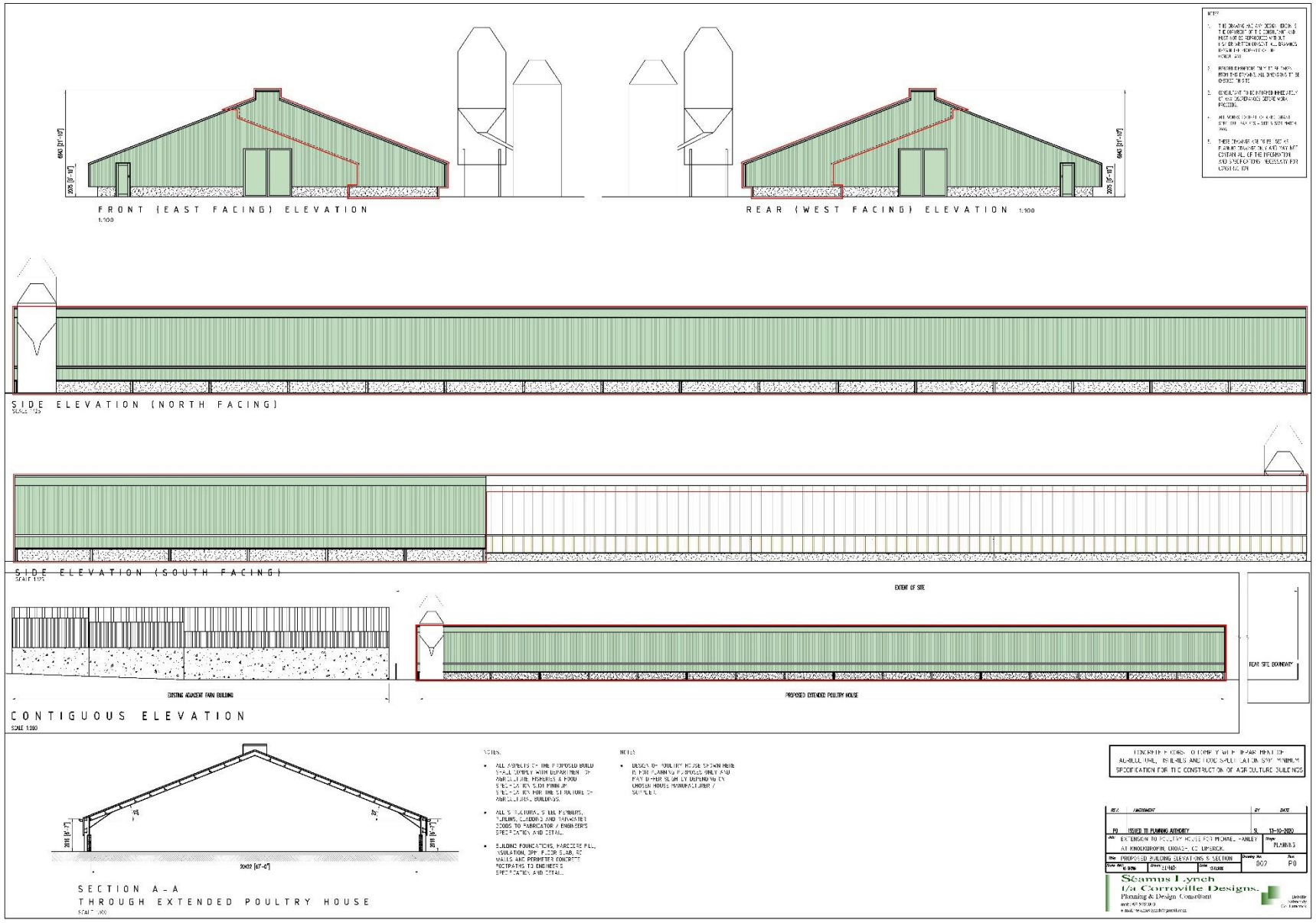


Appendix No. 2 – Site Layout (Not to Scale) Location of Proposed and Existing Development



Appendix No. 3 – Drawings of Proposed Development (Not to Scale)




FRONT (EAST FACING) ELEVATION
1:100
REAR (WEST FACING) ELEVATION 1:100
SIDE ELEVATION (NORTH FACING)
SIDE ELEVATION (SOUTH FACING)
EXTENT OF SITE
REAR SITE BOUNDARY
EXISTING ADJACENT FARM BUILDING
PROPOSED EXTENDED POULTRY HOUSE
CONTIGUOUS ELEVATION
SCALE 1:200
SECTION A-A
THROUGH EXTENDED POULTRY HOUSE
ISSUED TO PLANNING AUTHORITY
PROPOSED BUILDING ELEVATIONS & SECTION
PLANNING
Séamus Lynch
t/a Corroville Designs.
Planning & Design Consultant

Appendix No. 4 – Environmental Protection Agency – Guidelines on EIS – Project Type 13

PROJECT TYPE 13

Pig-rearing installations; Poultry-rearing installations.	
Introduction	The principal concerns which are likely to arise in this context stem from the issues of waste handling (mainly slurry/manure) and odours. The significance of impacts is very much a factor of the site's proximity to sensitive receptors such as aquifers or residences. Such projects frequently dispose of wastes at locations which are not adjacent to the animal rearing operations.
Project Description	**Checklist of items to be described:-**
Construction:-	▼ Extension of infrastructure (water, power, access); ▼ Site preparation works; ▼ Materials; ▼ Access.
Operation (including relevant alternatives):-	▼ Access and transportation; ▼ Food, storage, handling and transportation; ▼ Water and power supply; ▼ Quantification of inputs (feed, stock, power); ▼ Quantification of outputs (animal wastes, products, other wastes); ▼ Animal housing structures and associated activities, heating, ventilation, cleaning; ▼ Other structures (offices, maintenance); ▼ Waste storage, handling and transportation; ▼ On-site infrastructure, water storage, roads, fences; ▼ Waste disposal areas and transportation routes; ▼ Waste disposal methods including equipment, duration, frequency, seasons, weather conditions, monitoring and recording.
Decommissioning (if applicable):-	▼ Removability of structures; ▼ Long-term contamination.
Growth:-	▼ Potential changes in numbers, types, intensity or methods.
Associated developments:-	▼ Processing plants; ▼ Foodstuff suppliers; ▼ Breeding stock suppliers; ▼ Equipment suppliers; ▼ Off-site infrastructure upgrading.
Environmental Effects	**Typical significant impacts likely to affect:-**
Human Beings	▼ Nuisance and loss of amenity.
Fauna	▼ Introduction of predator and scavenger species; ▼ Pest control measures; ▼ Spreading of disease as a result of contact with contaminated domestic animals/birds, carcasses or slurry.
Flora	▼ Potential effects on vegetation due to eutrophication, effluent seepage/ run-off; ▼ Waste spreading
Soils (and Geology)	▼ Nutrient levels; ▼ Assimilative capacity of soils; ▼ Transmissivity and conductivity of geology.

Pig-rearing installations; Poultry-rearing installations.	
Water	▼ Leakage of effluent (including during transportation); ▼ Pollution by contaminated run-off; ▼ Disposal of carcasses; ▼ Location and timing of slurry spreading.
Air	▼ Malodours arising from housing units and manure/slurry stores; ▼ Malodours arising from slurry spreading; ▼ Malodours due to transportation of livestock/slurry; ▼ Noise (particularly in anticipation of feeding); ▼ Volatilisation of ammonia.
Climate	▼ Gases emitted from slurry/manure; ▼ Methane (contribution to greenhouse gases); ▼ Ammonia (contribution to acidifying gases).
The Landscape	▼ Visibility of structures; ▼ Potential visual impact as a result of water body eutrophication; ▼ Impact of odours on amenities and landscape character.
Material Assets	▼ Potential positive impact if slurry/manure gases are trapped for energy usage; ▼ Source of soil nutrients.
Cultural Heritage	
The Interaction of the Foregoing	
Possible Mitigation Options	
	▼ Re-cycling of slurry/manure as energy source or fertiliser; ▼ Monitoring of waste disposal; ▼ Management of waste disposal; ▼ Noise absorption measures; ▼ Effective slurry containment.

Appendix No. 5 – Details of Poultry Litter Contractor

Kelly Bobcat Services

The Mass Rock

Ballagh

Ashford

Co. Limerick

Contact No: (087) 7372044

VAT: 7707503E

12/04/2021

To whom it may concern,

Kelly Bobcat Services currently clean out and transport the poultry litter from Michael Hanley's Poultry houses for composting and for tillage farming purposes. Going forward we are in a position to shift this litter from his existing and proposed poultry operations. We are in a position to move approx. 400 – 500 tonnes annually for Michael Hanley.

Kind Regards

Jason Kelly

Kelly Bobcat Services

Appendix No. 6 – Animal Tissue Disposal

ANIMAL BYE PRODUCTS WASTE DISPOSAL SERVICE LICENSED HAULIERS

TOURNAFULLA CO. LIMERICK 069 81086

FAX MESSAGE

TO WHOM IT MAY CONCERN

09 April 2021

This letter is to confirm that we will collect CAT 2 fallen poultry from Mr Michael Hanley, Croagh, Co Limerick on a regular basis as required.

Yours sincerely

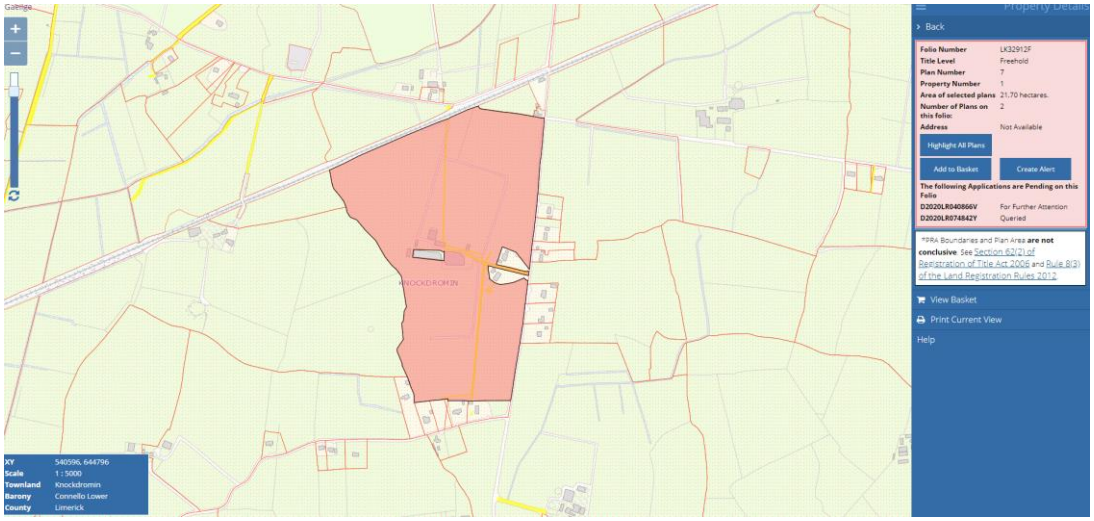
Delia Ward

Delia Ward

WARD WASTE PRODUCTS LTD

M6010024
Ward Waste Products Ltd
Tournafulla
Co. Limerick
069 81086
KN17 DAFF

Appendix No. 7 – Extent and Location of Lands Available for Application of Soiled Water



Appendix No. 8 – Feed Details

15th April 2021

To whom it may concern:

As part of our expansion plans, Manor Farm are offering opportunities to a select number of farmers to expand their free range broiler growing enterprise with us.

To that end we have approved Michael Hanley, Knockdromin, Croagh, Co. Limerick, to erect a 26,500 bird free range broiler unit. On average, we project he will put approx 5 crops per year and will require approx. 105 tonnes of feed per flock, or 13 tonnes per week.

The feed will be supplied from our own dedicated poultry feedmill in Shercock and is formulated for maximum digestibility and feed conversion efficiency to minimise the need for additional protein or phosphate, using the latest available enzymes and milling techniques. This approach minimises the amount of litter produced and minimises the nutrients such as nitrate and phosphate that are excreted in the litter.

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

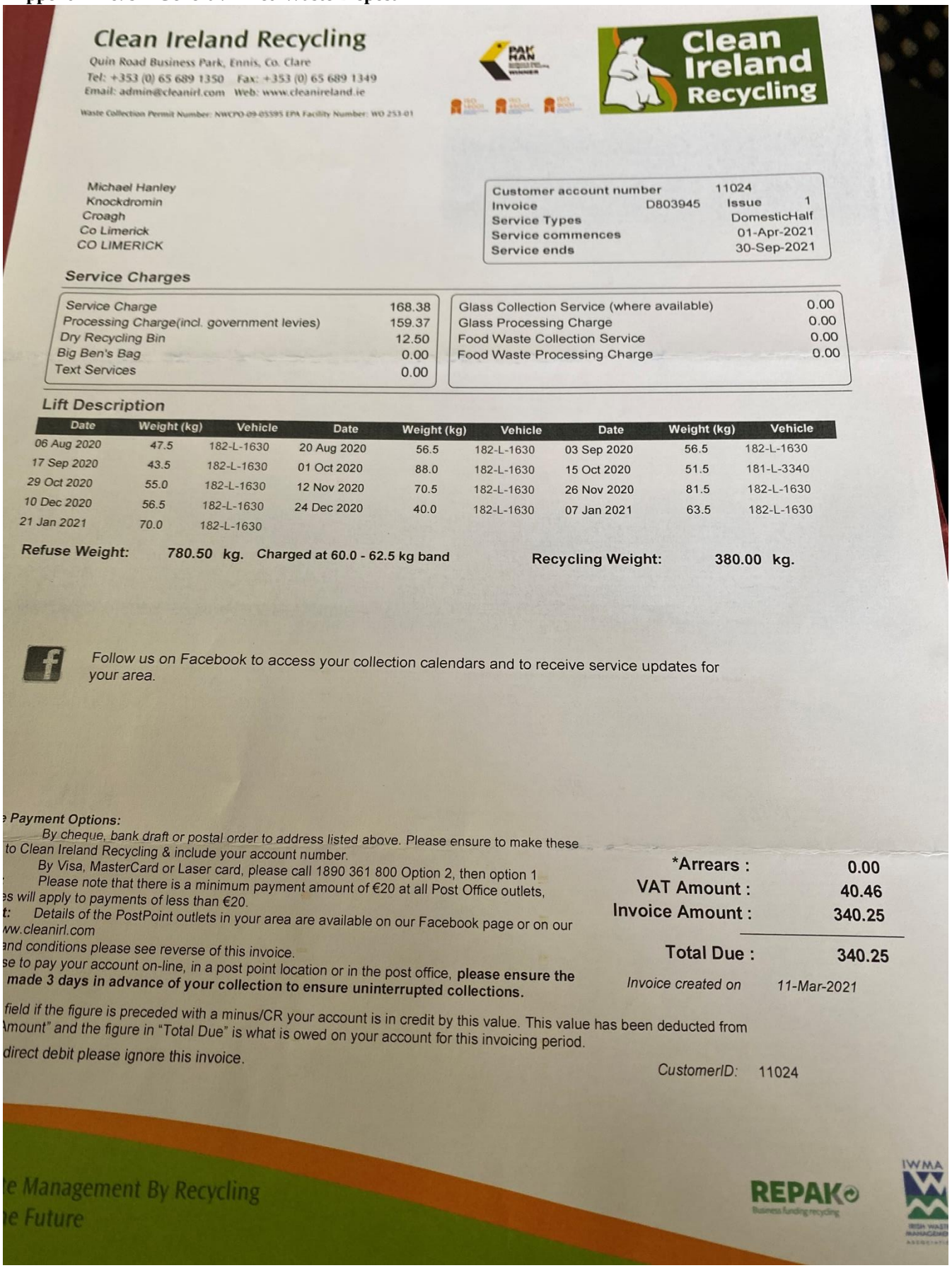
Tom Horan

Head of Agriculture

087 8206621

Carton Bros UC t/a Manor Farm, Shercock, Co. Cavan. Ireland.
Tel: 042 9691100 Fax: 042 9669698 Email: info@manorfarm.ie www.manorfarm.ie
Registered in Ireland No 7313 VAT No: IE 8Y48467S Registered Office: Bracetown Business Park, Clonee, Co. Meath
Directors: Vincent Carton, Justin Carton

Appendix No. 9 – General/Mixed Waste Disposal



Clean Ireland Recycling

Quin Road Business Park, Ennis, Co. Clare
Tel: +353 (0) 65 689 1350 Fax: +353 (0) 65 689 1349
Email: admin@cleanirl.com Web: www.cleanireland.ie
Waste Collection Permit Number: NWCPO-09-05595 EPA Facility Number: WO 253-01

Clean Ireland Recycling

Michael Hanley
Knockdromin
Croagh
Co Limerick
CO LIMERICK

Customer account number	11024
Invoice D803945	Issue 1
Service Types	DomesticHalf
Service commences	01-Apr-2021
Service ends	30-Sep-2021

Service Charges

Service Charge	168.38	Glass Collection Service (where available)	0.00
Processing Charge(incl. government levies)	159.37	Glass Processing Charge	0.00
Dry Recycling Bin	12.50	Food Waste Collection Service	0.00
Big Ben's Bag	0.00	Food Waste Processing Charge	0.00
Text Services	0.00		

Lift Description

Date	Weight (kg)	Vehicle	Date	Weight (kg)	Vehicle	Date	Weight (kg)	Vehicle
06 Aug 2020	47.5	182-L-1630	20 Aug 2020	56.5	182-L-1630	03 Sep 2020	56.5	182-L-1630
17 Sep 2020	43.5	182-L-1630	01 Oct 2020	88.0	182-L-1630	15 Oct 2020	51.5	181-L-3340
29 Oct 2020	55.0	182-L-1630	12 Nov 2020	70.5	182-L-1630	26 Nov 2020	81.5	182-L-1630
10 Dec 2020	56.5	182-L-1630	24 Dec 2020	40.0	182-L-1630	07 Jan 2021	63.5	182-L-1630
21 Jan 2021	70.0	182-L-1630						

Refuse Weight: **780.50 kg.** **Charged at 60.0 - 62.5 kg band** **Recycling Weight:** **380.00 kg.**

Follow us on Facebook to access your collection calendars and to receive service updates for your area.

Payment Options:
By cheque, bank draft or postal order to address listed above. Please ensure to make these to Clean Ireland Recycling & include your account number.
By Visa, MasterCard or Laser card, please call 1890 361 800 Option 2, then option 1
Please note that there is a minimum payment amount of €20 at all Post Office outlets, es will apply to payments of less than €20.
t: Details of the PostPoint outlets in your area are available on our Facebook page or on our ww.cleanirl.com
and conditions please see reverse of this invoice.
se to pay your account on-line, in a post point location or in the post office, **please ensure the made 3 days in advance of your collection to ensure uninterrupted collections.**

*Arrears :	0.00
VAT Amount :	40.46
Invoice Amount :	340.25
Total Due :	340.25

Invoice created on 11-Mar-2021

field if the figure is preceded with a minus/CR your account is in credit by this value. This value has been deducted from Amount" and the figure in "Total Due" is what is owed on your account for this invoicing period.

direct debit please ignore this invoice.

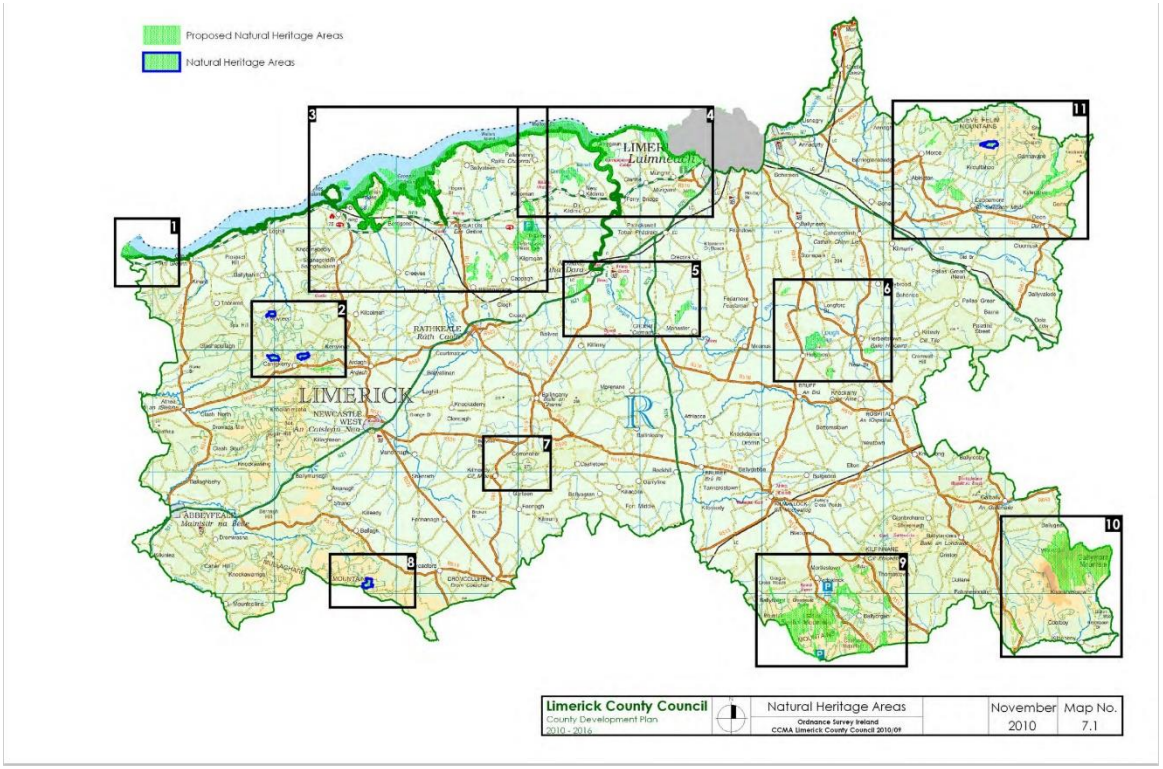
CustomerID: 11024

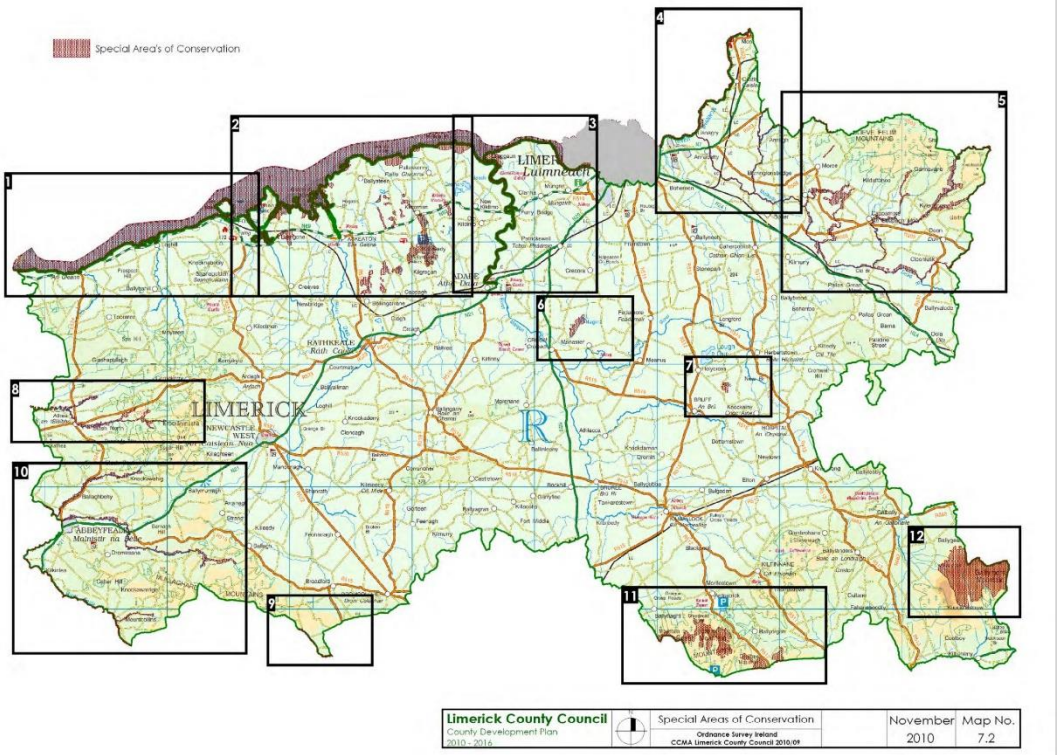
e Management By Recycling
e Future

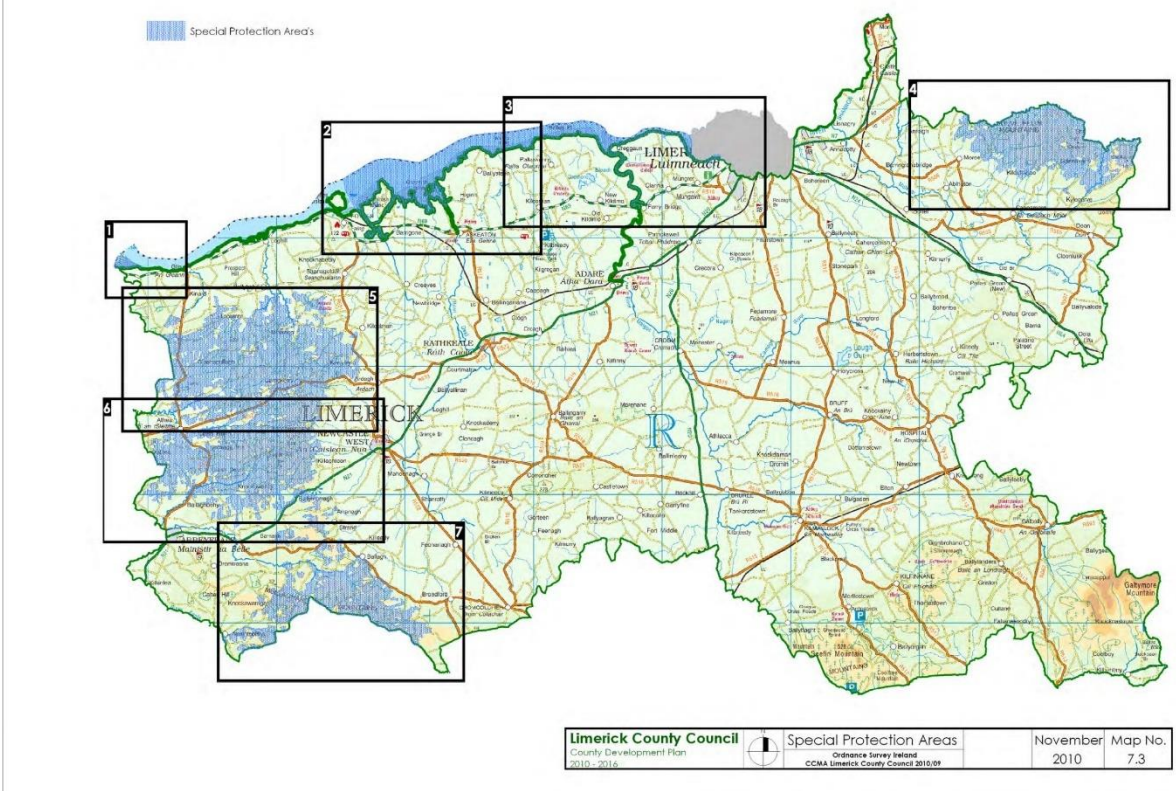
REPAK Business funding recycling

IWMA

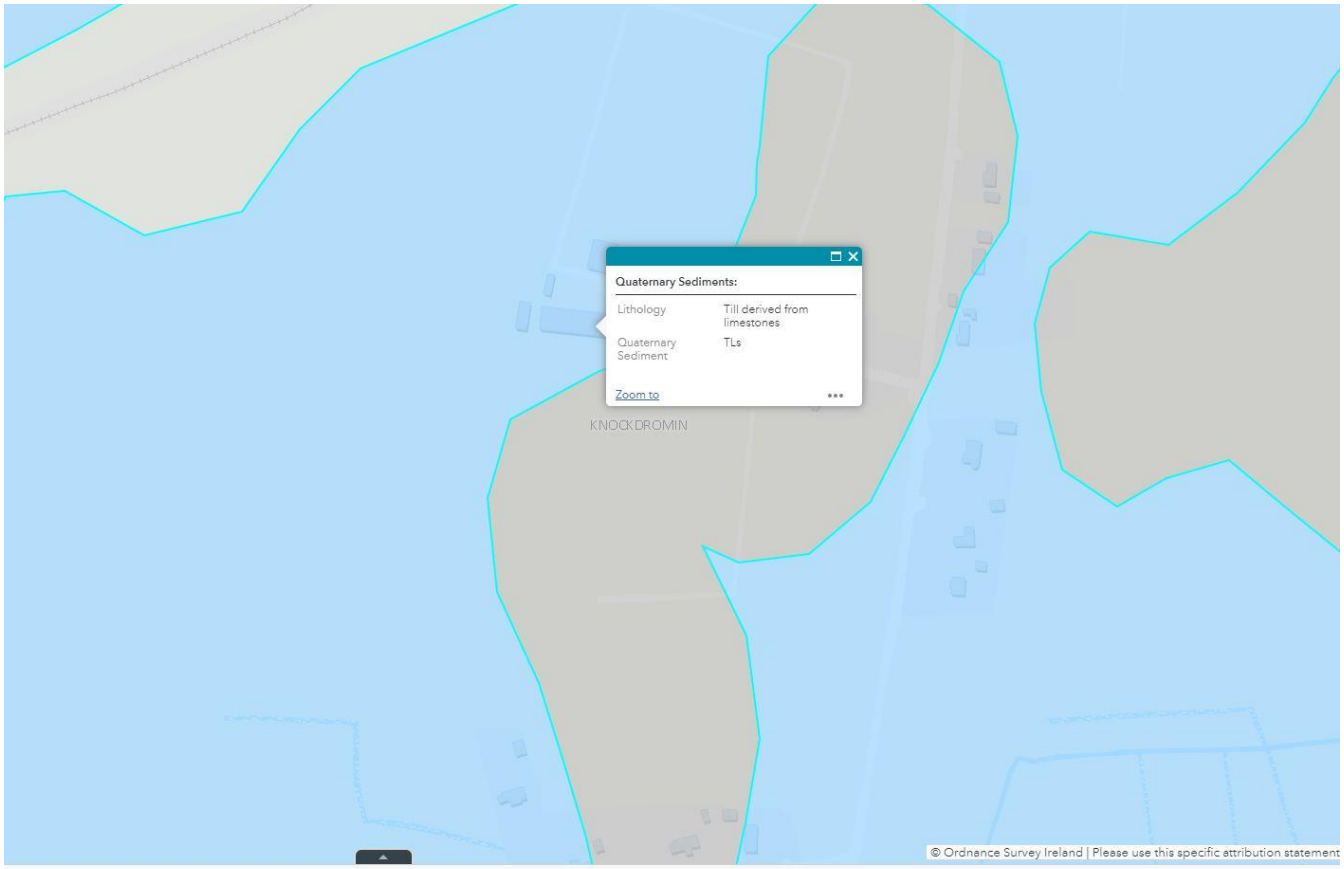
Appendix No. 10 – Extracts from Limerick County Development Plan




Special Area's of Conservation
LIMERICK
Limerick County Council
County Development Plan
2010 - 2016
Special Areas of Conservation
Ordnance Survey Ireland
CCMA Limerick County Council 2010/09
November
2010
Map No.
7.2


Special Protection Area's
LIMERICK
Limerick County Council
County Development Plan
2010 - 2016
Special Protection Areas
Ordnance Survey Ireland
CCMA Limerick County Council 2010/09
November
2010
Map No.
7.3

Appendix No. 11 – Extract from GSI Soil map of Ireland



Appendix No. 12 – Local Water Quality Data

SHIRBD: HYDROMETRIC AREA NO. 24

The baseline rivers showing the channel length surveyed (km) and the estimated channel length in four biological quality classes: A - Unpolluted, B - Slightly polluted/eutrophic, C - Moderately polluted and D - Seriously polluted. Data from biological surveys in period 2010-2012.

Channel Length (km) in Class			**A**	**A**	**B**	**C**	**D**	**Total**
WFD Quality Class			**High**	**Good**	**Moderate**	**Poor**	**Bad**	
River Name	**Year**	**Code**						
Ahacronane	2011	24A01	0.0	0.0	0.0	8.5	0.0	8.5
Ahavarraga Stream	2011	24A02	0.0	0.5	0.0	4.0	1.0	5.5
Arra	2011	24A04	0.0	4.5	0.0	1.5	0.0	6.0
Ballylongford	2011	24B03	0.0	6.5	2.0	0.0	0.0	8.5
Barnakyle	2011	24B05	0.0	0.0	0.0	14.0	0.0	14.0
Broadford Stream	2011	24B07	0.0	4.5	0.0	0.0	0.0	4.5
Bunoke	2011	24B06	0.0	0.0	7.5	5.6	0.0	13.0
Camoge	2012	23C01	0.0	5.1	22.9	0.0	0.0	28.0
Charleville Stream	2011	24C02	0.0	0.0	0.0	6.0	0.0	6.0
Clonshire	2012	24C03	0.0	0.0	0.0	13.0	0.0	13.0
Cloonlahard Stream	2011	24C06	0.0	6.5	0.0	0.0	0.0	6.5
Deel (Newcastlewest)	2011	2D02	0.0	34.8	14.3	2.5	0.0	51.5
Dooncaha Stream	2011	24D07	0.0	0.0	0.0	5.5	0.0	5.5
Flemingstown Stream	2012	24F03	0.0	6.5	0.0	0.0	0.0	6.5
Glencorbry	2011	24G03	0.0	4.5	0.0	0.0	0.0	4.5
Greanagh	2012	24G05	0.0	0.0	0.0	4.0	0.0	4.0
Lismakeery Stream	2011	24L03	0.0	0.0	0.0	7.0	0.0	7.0
Loobagh	2012	24L01	0.0	17.0	2.0	1.0	0.0	20.0
Mahore	2012	24M04	0.0	0.0	0.0	12.0	0.0	12.0
Maigue	2011	24M01	0.0	16.2	13.9	5.5	0.0	35.5
Morningstar	2012	24M02	0.0	33.0	0.0	0.0	0.0	33.0
Owvane (Limerick)	2011	24O02	3.4	9.6	0.0	0.0	0.0	13.0
Shanagolden Stream	2011	24S02	0.0	6.5	0.0	0.0	0.0	6.5
Tarbert Stream	2011	24T01	0.0	1.5	0.0	0.0	0.0	1.5
Total Length (km) surveyed this cycle			3.4	157.2	62.5	90.0	1.0	314.0
Adjustments (km) (See below)*			0.0	0.0	0.0	0.0	0.0	0.0
Current Length (km) Adjusted	**2011/12**		**3.4**	**157.2**	**62.5**	**90.0**	**1.0**	**314.0**
Percentages			**1.1**	**50.1**	**19.9**	**28.7**	**0.3**	**100.0**
Channel Length (km) in Class				**A**	**B**	**C**	**D**	**Total**
Baseline : Current Adjusted Status (km)	2011/12			160.6	62.5	90.0	1.0	314.0
Percentages				51.1	19.9	28.7	0.3	100.0
Baseline: Previous Unadjusted Status (km)**	2007-'09		0.0	154.0	75.5	83.5	1.0	314.0
Percentages			0.0	49.0	24.0	26.6	0.3	100.0
Changes since Previous Survey (km)			3.4	3.2	-13.1	6.5	0.0	0.0

* Adjustments: Deduct the 'extras' (+), add the 'shortages' (-):

**Clabby *et al*., 2008

[1] Rivers not previously included in the National Statistics

Appendix No. 13 – Met Data

Station Name: CROAGH (Smithfield)						
Station Height: 72 M						
Latitude:52.542	Longitude: -8.859					
year: - Year						
month: - Month						
rain: - Precipitation Amount (mm)						
gdf: - Greatest daily fall (mm)						
rd: - Number of rain days (0.2mm or more)						
wd: - Number of wet days (1.0 mm or more)						
ind: - Indicator						
year	month	ind	rain	gdf	rd	wd
2001	1	0	53.1	9.1	21	13
2002	1	0	126.2	20.4	25	18
2002	2	0	139.2	15.1	24	21
2002	3	0	35.8	8.6	16	10
2002	4	0	64.3	12	18	13
2002	5	0	89	12.6	23	17
2002	6	0	73.9	9.3	20	15
2002	7	0	46.3		18	11
2002	8	0	43.3	11.1	18	12
2002	9	0	22.7		8	5
2002	10	0	118.2	32.6	22	18
2002	11	0	112.5	13.7	26	21
2002	12	0	79	12.9	17	16
2003	1	0	54.1	12.5	17	11
2003	2	0	40.8	10.5	15	9
2003	3	0	49.4	11.3	14	11
2003	4	0	56	13.1	12	12
2003	5	0	83.9	12.9	27	19
2003	6	0	89.3	39.3	14	11
2003	7	0	87.8	28.9	21	15
2003	8	0	8.2	2.3	10	4
2003	9	0	41.3	6.7	14	9
2003	10	0	55.4	19.3	12	8
2003	11	0	116.7	25.3	24	18
2003	12	0	78.7	16.5	19	16
2004	1	0	104.1	14	24	19
2004	2	0	29	4.6	13	10
2004	3	0	87.3	12.4	17	14
2004	4	0	49.7	8.8	21	12

2004	5	0	36	16.4	9	6
2004	6	0	68.3	32	20	12
2004	7	0	52.9	7	20	13
2004	8	0	104.3	25		
2004	9	0	66.1	11.1	19	12
2004	10	0	162.9	29.3	25	19
2004	11	0	50.4	15.1	16	9
2004	12	0	89.8	28.3	20	16
2005	1	0	110.2	28.5	24	16
2005	2	0	51.7	14.6	15	8
2005	3	0	44.8	12.8	14	8
2005	4	0	69.9	10.2	21	12
2005	5	0	66.1	18.9	18	12
2005	6	0	46.4	10	12	12
2005	7	0	67.6	24.1	15	11
2005	8	0	73.8	14.1	19	12
2005	9	0	59.6	14.5	18	10
2005	10	0	104.4	23.2	18	14
2005	11	0	88.1	14.2	19	15
2005	12	0	76.7	14.2	22	18
2006	1	0	58	18.2	17	10
2006	2	0	40.2	18.3	10	6
2006	3	0	72.8	8.9	22	14
2006	4	0	30.9	4.2	18	10
2006	5	0	112.3	13.9	23	21
2006	6	0	17.2	6.5	9	5
2006	7	0	23.3	7.1	13	6
2006	8	0	39.6	12.6	20	10
2006	9	0	162.8	39.5	22	19
2006	10	0	97.8	35.6	20	14
2006	11	0	119.9	18.2	24	22
2006	12	0	147.5	20.5	25	21
2007	1	0	80.2	14.4	24	15
2007	2	0	73.9	26.7	22	15
2007	3	0	69.4	16.2	18	13
2007	4	0	8.9	3.8	5	2
2007	5	0	77.5	9.7	20	17
2007	6	0	122.4	25.6	18	16
2007	7	0	97.4	15.1	24	20
2007	8	0	95.3	30.7	21	13
2007	9	0	40.9	14.4	11	7
2007	10	0	50.5	12.4	13	7
2007	11	0	62.8	20.5	17	8
2007	12	0	129.8	33.8	16	14
2008	1	0	183.1	22.5	25	24
2008	2	0	44.8	13.9	15	11
2008	3	0	103.9		26	21
2008	4	0	44.6	11.1	15	11

2008	5	0	52.4	11	15	11
2008	6	0	98.4	21.1	19	13
2008	7	0	125.9	37.9	17	13
2008	8	0	145.4	35.3	28	21
2008	9	0	94.6	19.5	16	15
2008	10	0	143.3	26.6	24	21
2008	11	0	85.8	18.6	23	14
2008	12	0	75.1	22.2	17	9
2009	2	0	17.3	3.7	14	5
2009	3	0	60.1	20.3	14	11
2009	4	0	107.9	15.6	22	20
2009	5	0	94.1	21.7	17	15
2009	6	0	54.3	26.2	14	10
2009	7	0	124.7	27.8	26	21
2009	8	0	85.9	19.4	23	16
2009	9	0	47.7	22.4	12	7
2009	10	0	106.6	25.2	21	16
2009	11	0	222.9	23.9	28	25
2009	12	0	74.1	18.3	20	15
2010	1	0	52.4	11.4	18	9
2010	2	0	41.3	6.5	17	8
2010	3	0	75.9	20.7	17	11
2010	4	0	54.5	23.6	13	8
2010	5	0	35.9	10.7	9	7
2010	6	0	42.6	10.4	8	6
2010	7	0	111.9	28.3	23	15
2010	8	0	34	5.2	20	13
2010	9	0	90.1	25.1	22	16
2010	10	0	73.1	13.7	21	10
2010	11	0	104.5	24.1	20	18
2010	12	0	23.8	8.7	12	8
2011	1	0	56.6	11.9	19	12
2011	2	0	109	23.7	22	17
2011	3	0	28	7.2	11	6
2011	4	0	33.4	13.2	12	8
2011	5	0	99.6	18.1	26	18
2011	6	0	86	18.4	17	14
2011	7	0	38.1	16.1	16	9
2011	8	0	43.2	7.5	20	10
2011	9	0	65.5	10.1	25	17
2011	10	0	69	15	23	13
2011	11	0	81.3	24.6	21	14
2011	12	0	124.1	16	28	26
2012	1	0	89.2	14.5	25	17
2012	2	0	37.6		17	8
2012	3	0	26.6	5.3	9	8
2012	4	0	94.2	15.2	21	18
2012	5	0	34.4	8.8	14	8

2012	6	0	215.6	69.1	25	18
2012	7	0	100.4	11.3	24	15
2012	8	0	97.6	17.7	24	16
2012	9	0	67.6	18	19	13
2012	10	0	97.2	16.2	21	16
2012	11	0	109.2	15.2	25	20
2012	12	0	132.1			
2013	1	0	94.1	18.2	25	18
2013	2	0	41.5	7.1	13	9
2013	3	0	41.3	8.3	16	12
2013	4	0	57.9	13.1	18	11
2013	5	0	87	21.3	19	14
2013	6	0	67.5	20.6	12	7
2013	7	0	43.4	11.6	13	10
2013	8	0	45.7	14.1	20	11
2013	9	0	55.1	8.8	16	11
2013	10	0	115.3	15.9	22	18
2013	11	0	75.6	12.5	18	14
2013	12	0	154.8	33	24	19
2014	1	0	192.5	26.9	31	27
2014	2	0	214.4	27.8	25	23
2014	3	0	103	16.6	19	17
2014	4	0	36.6	14.4	14	9
2014	5	0	76.1	10.2	20	16
2014	6	0	32.8	7.2	13	8
2014	7	0	36.3	11.5	19	9
2014	8	0	67.7	9.7	22	16
2014	9	0	39.2	26.5	9	4
2014	10	0	75	15.2	23	17
2014	11	0	117	20	22	17
2014	12	0	93.1	17.2	23	19
2015	1	0	114.5	14.4	26	21
2015	2	0	81.7	12.6	18	16
2015	3	0	67.4	8.8	17	15
2015	4	0	40.4	10.6	11	8
2015	5	0	108.3	19.4	22	17
2015	6	0	25.9	8.1	15	8
2015	7	0	59.7	14.4	26	16
2015	8	0	76.1	13.3	23	17
2015	9	0	95.3	22.1	16	11
2015	10	0	50.9	12.5	15	9
2015	11	0	155.3	12.7	27	22
2015	12	0	236.7	23	31	30
2016	1	0	123.5	18.4	28	20
2016	2	0	128.4	23.2	23	18
2016	3	0	47.8	7.8	15	12
2016	4	0	45.4	9.2	17	13
2016	5	0	41	6.9	13	9

2016	6	0	64.1	9.4	19	13
2016	7	0	59.2	7.7	24	17
2016	8	0	85.2	20	17	13
2016	9	0	81.1	12.4	21	19
2016	10	0	26.1	13.1	6	5
2016	11	0	63.2	8.9	17	12
2016	12	0	71.9	18.3	16	11
2017	1	0	61.1	18	19	11
2017	2	0	59.9	8.3	22	14
2017	3	0	103.1	22.2	20	17
2017	4	0	17.3	6.9	8	5
2017	5	0	38.7	19.5	11	6
2017	6	0	74.2	10.3	20	14
2017	7	0	93.1	23.4	20	15
2017	8	0	58.8	13.3	18	12
2017	9	0	107.6	18	22	17
2017	10	0	70.7	13.3	22	15
2017	11	0	97.2	21.4	24	17
2017	12	0	125.3	31.2	26	16
2018	1	0	179.8	18.3	29	26
2018	2	0	58.8	16.8	17	10
2018	3	0	68	7.5	23	15
2018	4	0	79.2	19	20	17
2018	5	0	55	26.4	13	9
2018	6	0	11.3	3.4	8	4
2018	7	0	33.6	9.3	12	7
2018	8	0	43.2	11.5	19	11
2018	9	0	64.1	15.9	18	14
2018	10	0	50.7	16	13	8
2018	11	0	94.5	14.9	23	20
2018	12	0	126.1	19.3	25	22
2019	1	0	84	19.2	24	18
2019	2	0	61.4	11.9	16	12
2019	3	0	170.1	25.2	19	18
2019	4	0	65.7	12.8	16	13
2019	5	0	35.2	6.6	17	12
2019	6	0	64.3	13.6	18	13
2019	7	0	63.3	13.8	13	11
2019	8	0	148.6	24.8	25	21
2019	9	0	120.3	19.8	18	15
2019	10	0	93.9	20.5	26	20
2019	11	0	112.2	12.6	23	19
2019	12	0	105.5	12	23	22
2020	1	0	63.2	11.3	25	12
2020	2	0	234.1	31.8	27	26
2020	3	0	89.2	28.2	18	16
2020	4	0	49.7	15	11	8
2020	5	0	16.7	10.7	5	4

2020	6	0	95.9	33.4	14	11
2020	7	0	98.2	17.8	22	14
2020	8	0	143.5	27.5	22	19
2020	9	0	40.7	9.9	14	11
2020	10	0	126	23.4	25	20
2020	11	0	113.2	12.2	25	21
2020	12	0	134.9	15.7	27	25
2021	1	0	84.6	9.8	22	16

AN ROINN TALMHAÍOCHTA, IASCAIGH AGUS BIA DEPARTMENT OF AGRICULTURE, FISHERIES AND FOOD

S 135

November 2008

MINUMUM 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) 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 his impact, particularly in scenic landscapes. **Shelter** belts may also screen buildings, but have the particular purpose of moderating strong winds around buildings and farmyards.

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.

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.

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

Appendix No. 15 – Noise Audit Report

Noise Survey Report

Location:
Michael Hanley
Knockdromin
Croagh
Co. Limerick
Eircode: V42 K9M2
Free Range Poultry House
Planning ref: ***20/1138***

February 2021

Noise Survey:

Date: 10th February 2021
Client: Michael Hanley
Knockdromin
Croagh
Ardagh
Co. Limerick

Noise emitted from: Free Range Poultry House
Capacity: 12'000

Scope:

Access the level of sound emitted from planned poultry house in relation to a nearest third party resident as requested by the Limerick city and county planning office, as part of a Planning application ***Ref. No. 20/1138*** to build an extension to one poultry house on the property of Michael Hanley, Knockdromin, Croagh, Co. Limerick.

Methodology:

Three parameters were used in measuring the existing noise pollution in and around the proposed site. These are:

(LAeq) This is the energy average noise level considered as a notional steady level that contains the same amount of noise as the actual fluctuating noise level during a specified period of time (based on equal energy principal).

(LA10) This is the sound level that is exceeded for 10% of the sample time period. This would typically be used to measure the noise pollution of traffic in the area.

(LA90) This is the sound level that is exceeded for 90% of the sample time period. This would typically be used to measure the background noise in the area.

Baseline Noise Survey

A baseline noise survey was carried out at three locations at its nearest most noise sensitive areas. See Site map for locations. This survey was carried out on Wednesday 10th February. The results are shown in tables 2.0. The noise survey measured the baseline noise pollution in the area. The poultry House was in the cleaning phase of its life cycle and was being power washed on the day.

Equipment:

Noise meter used: Bruel & Kjaer 2250 light Handheld Analyzer.

Existing Environment

The site is located in a rural area c. 210m in off the road where noise pollution is at a minimum. The nearest dwelling (east of the property) is a domestic dwelling c. 133m from the point source.

The next nearest occupied domestic dwelling is c. 140m to the east of the poultry house. This property is the original family home of the applicant. There are six additional domestic dwellings within 350m of the existing poultry house all located to the east of the property.

The poultry house is located in a natural dip in the landscape which will by its very nature mitigates noise emission and adverse visual effects of the development on surrounding receptors 7 No. of. (Pic ref. 01 & 02)

Important Note:

The proposed poultry house will operate on a c. 6.57-acre site. The birds will be fenced in within this site whilst outside the house during day light hours (see Life Cycle of Poultry House)

Life Cycle of Poultry House:

The Free Range poultry house's life cycle operates **7 – 7.5 per year** over a period of 48-52 days at a time and goes through five distinctive operations. These are:

1. Loading of 1-day old chicks into poultry house. Time period 2-3 hours per life cycle.
2. Normal operating period (fattening of birds). Time period c. 42 days per life cycle. Birds are kept inside for a period of c. 21 days. After 21 days birds have access to outside during day light hours i.e., 8am – 6pm. ***(on average 10% of birds are outside at any one time***)
3. Extraction of birds from poultry house. Time period 3-4 hours per life cycle.
4. Cleaning out of bedding material. Time period 2 hours per life cycle.
5. Power washing of floors. Time period 3-4 hours per life cycle.

Figure 01: Site Map.

Existing Noise Levels

Results:

Testing Location (see site map)	**Distance from Source (meters)**	**Date / time**	**dB** (LAeq)	**dB** (LA10)	**dB** (LA90)	**Location Description**	**Notes**
1	2	10-02-2021 11.00 – 11.55	**61.6.0 dB**	**63.5 dB**	**53.9 dB**	**Proposed site of poultry house**	**Power washing of poultry House Vehicles audible from a distance. Articulated Truck movements on farm Cattle Stored in adjacent sheds**
2	140	10-02-2021 12.02 – 13.02	**54.8 dB**	**61.3 dB**	**53.2 dB**	**140m from proposed poultry house**	**Power washing of Poultry House Vehicles audible from a distance. Tractor Movements on farm Vehicle movements on farm**
3	300	10-02-2021 13.12 – 14.09	**58.3 dB**	**71.5 dB**	**44.9 dB**	**300m from point source**	**Dogs Barking at a distance Large / Small vehicles passing frequently. Tractors passing 4 No. of**

Table 2.0 Noise Readings

Estimated Specific Noise Level of Proposed Development

Methodology:

A similar scale development to the one proposed was chosen in order to estimate the noise levels to be expected by the proposed development. Two Poultry Houses side by side with a combined bird population of 24'000 free range birds was surveyed for noise levels. This property is c. 12.88 miles from the applicant's site, is in a similar rural setting and therefore would have a similar surrounding environment. On the day the birds had full access to the exterior of the poultry houses and there were approximately 10% of the birds outside. The fans on the roof of the poultry houses were fully operational at the time. Noise level readings were taken at 100 meters, 200 meters and 300 meters from the point of origin. This gives an accurate reflection of the noise levels to be expected from the proposed development during the growing phase and the likely impact on the nearest noise sensitive receptor (see table 4.0). Noise audit results

Test results from similar scale operation (growing period)

Testing distance from point of Origin	Date / time	dB (LAeq)	dB (LA10)	dB (LA90)	Notes
100 meters	10/07/2018 11.30 – 12.00	**36.6 dB**	**40.6 dB**	**33.1 dB**	**Background Farmyard Noise**
200 meters	10/07/2018 12.10 – 12.40	**37.6dB**	**40.6 dB**	**35.3 dB**	**Ride on mower operational nearby**
300 meters	10/07/2018 12.50 – 13.30	**31.6 dB**	**32.3 dB**	**30.5 dB**	**Ride on mower operational at a distance**

Table 4.0 Similar scale operation

Testing Scenario	Description	Date /Time	dB (LAeq) Reading 20M	dB (LAeq) Reading 40M	dB (LAeq) Reading 60M	dB (LAeq) Reading 80M	dB (LAeq) Reading 100M	Measurement period 24 hr clock	Photographic reference
1	Loading	07/11/ 2017	**48.0 dB**	**49.7 dB**	**51.7 dB**	**48.2 dB**	**49.0 dB**	**19.00 – 21.30**	**Set 1**
2	Normal operation	28/09/ 2017	**42.7 dB**	**35.6 dB**	**31.8 dB**	**46.4 dB**	**33.7 dB**	**21.00 – 22.30**	**Set 2**
3	Extraction	30/09/ 2017	**43.4 dB**	**51.8 dB**	**42.9 dB**	**42.3 dB**	**37.1 dB**	**06.00 – 10.00**	**Set 3**
4	Cleaning	02/10/ 2017	**55.5 dB**	**46.5 dB**	**53.3 dB**	**49.7 dB**	**55.4dB**	**05.00 – 07.00**	**Set 4**
5	Power washing	04/10/ 2017	**42.0 dB**	**40.8 dB**	**44.1 dB**	**43.0 dB**	**68.3 dB (passing vehicle)**	**13.00 – 16.30**	**Set 5**

Table 5.0: Noise Audit Results for entire life cycle of a Poultry House

Observations and Recommendations:

As there is an existing poultry house on the property, in the power washing period of the poultry house life cycle, the noise survey measured the baseline noise pollution in the area at the time of survey. The existing poultry house is situated in a farmyard which also facilitates cattle storage adjacent to the poultry house. The noise levels in the area are at the lower end of the scale due to the nature of the surrounding environment. The proposed site is located c. 210m in off of the adjacent road and is located at a distance

of c. 133m from the nearest dwelling. The proposed site sits in the middle of a natural dip in the landscape and as such is surrounded by rising landscape on all sides. This landscape will act in part, as a natural buffer for any noise emanating from the proposed site. The typical life cycle of a free-range poultry house is as follows:

1. Loading of 1-day old chicks into poultry house. Time period 2-3 hours per life cycle.
2. Normal operating period (fattening of birds). Time period 6 weeks per life cycle.
3. Extraction of birds from poultry house. Time period 3-4 hours per life cycle.
4. Cleaning out of bedding material. Time period 2 hours per life cycle.
5. Power washing of floors. Time period 3-4 hours per life cycle.

On the day of the noise survey the poultry house was being power washed. A similar scale poultry operation in similar rural surroundings was surveyed for noise throughout all phases of its life cycle in 2017 (see table 5.0) .The greatest noise emissions from a poultry house occur during:

1. Loading of 1-day old chicks into poultry house. Time period 2-3 hours per life cycle.
2. Extraction of birds from poultry house. Time period 3-4 hours per life cycle.
3. Cleaning out of bedding material. Time period 2 hours per life cycle.
4. Power washing of floors. Time period 3-4 hours per life cycle.

However, these operations are only carried out for between two to four hours per life cycle of the poultry house equating to c. 7 – 7.5 cycles / annum.

The projected levels of noise pollution from the work life operations of the proposed poultry house, based on the surveys carried including nearby similar scale operations, show that the noise levels are well within the acceptable levels 90% of the time and will not adversely impact the nearest noise sensitive receptors.

There is a potential for noise pollution during the construction phase of the poultry house due to extra traffic and construction noise. All construction of the proposed poultry house will take place during normal working hours and should not adversely impact the quality of life for nearby residences for the period.

If you have any queries, please contact:
Keith Massey 087 6144992 / Pat Bourke of QFT Ireland on 087 6772708
Kind regards

Keith Massey B. Env. Sc. (hons) SIIRSM

Pat Bourke. RSP Grad IOSH FIIRSM

15/02/2021

Kind regards
Keith Massey B. Env. Sc. (hons) SIIRSM
15/02/2021

Gortroe; Newcastle West; Co. Limerick. (m) 087 6772708; pat@qftireland.com
SOLAS Registered 901504.

Picture references

Pic ref. 01: Existing Free range Poultry House

Pic ref. 02: Sunken landscape (existing poultry house is located to the rear of the building shown)

Pic ref. 03: Noise readings Location 1

Pic ref. 04: Noise readings Location 2

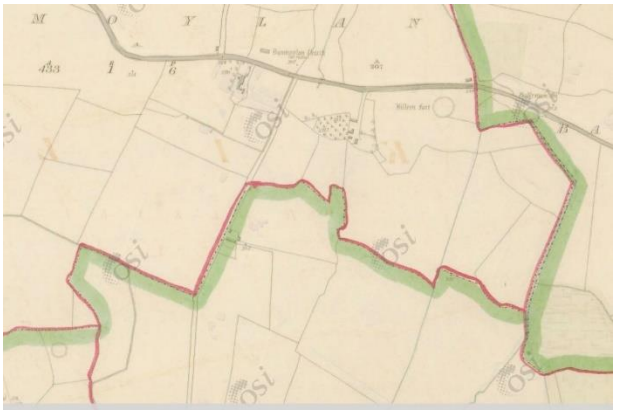
Pic ref. 05: Noise readings Location 3

Appendix No. 16 – Appropriate Assessment Screening Report

Screening for Appropriate Assessment

HABITATS DIRECTIVE SCREENING REPORT FOR AN EXISTING DEVELOPMENT AT KNOCKDROMIN, CROAGH, CO. LIMERICK

IN LINE WITH THE REQUIREMENTS OF ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE



Keith Massey
QFT Ireland EHS Consultants
Gortroe,
Newcastle West
Co. Limerick

Feb 2021

1. Introduction

1.1 Background

A comprehensive assessment of the impacts of an existing poultry operation at Knockdromin, Croagh, Co. Limerick was carried out in Feb 2021 by Keith Massey BSc SIIRSM of QFT Ireland EHS Consultants. The assessment allowed areas of potential ecological value and potential ecological constraints associated with the existing development to be identified and it also enabled potential ecological impacts associated with the existing development to be assessed and mitigated for.

The location of the existing development is within 15km of 7 No. sites designated under European law. As such and in accordance with Article 6(3) of the EU Habitats Directive (Council Directive 92/43/EEC) regarding Appropriate Assessment, this screening exercise for Appropriate Assessment was carried out in order to identify whether any significant impacts on designated sites are likely. This exercise will also determine the appropriateness of the existing project, in the context of the conservation status of the designated sites.

1.2 Regulatory Context

Relevant Legislation

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 1 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 the annexes to this directive. Articles 6(3) and 6(4) of this Directive call for the undertaking of an Appropriate Assessment for the 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. NHAs are not part of the Natura 2000 network and so the Appropriate Assessment process does not apply to them.

The Water Frame 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 waste 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 the waters achieve at least good status by 2021 and that status does not 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. Article 3-9 provide 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 its 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 aa 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 access the implications of a proposal in respect of a site's conservation objectives.

Appropriate Assessment is an assessment of the potential effects of an existing 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 a 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 absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

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 decisions 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 would 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 screening for Appropriate Assessment has been structured as a stage-by-stage approach as follows:

- Description of the existing project:
- Identification of the Natura 2000 sites close to the existing development:
- Identification and description of any individual and cumulative impacts on the Nature 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 existing development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of all impacts:

- National Parks and Wildlife Services – aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species: conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- information pertaining to water quality and geology.
- Myplan.ie – Mapped based information.
- National Biodiversity Date Centre (NBDC) – information pertaining to protected plant and animal species within the study area.
- Limerick City and County Council – Information on the planning history in the area in order to ascertain potential cumulative impacts.
- Corroville Designs – Information on the application. Its design and potential emissions.

3 SCREENING

3.1 DEVELOPMENT DESCRIPTION

Mr Michael Hanley has indicated his intention to apply to Limerick City and County Council for planning permission for a development at Knockdromin, Croagh, Co. Limerick. The existing development consists of one Free Range Poultry House on his landholdings with a current bird population of 12’000.

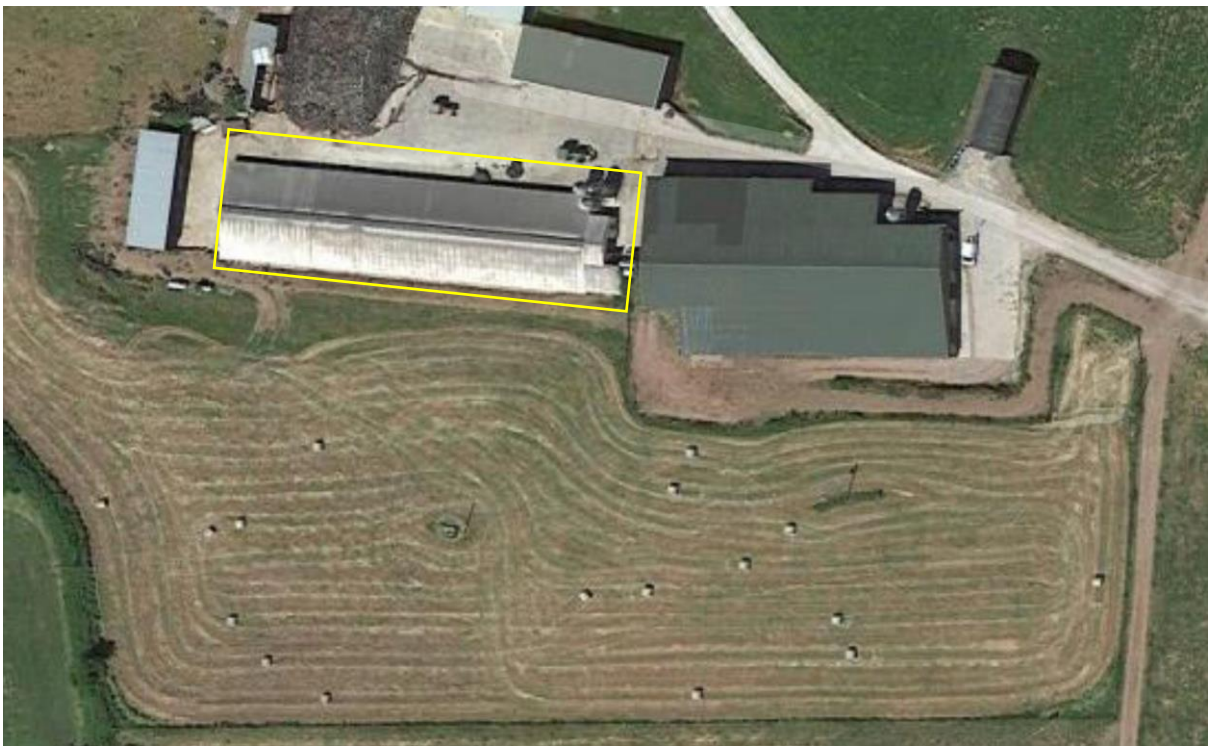


Figure 1 – Existing Site Plan

The operation of the farm involves the rearing of the chickens from day olds over a period of approximately 7-8 weeks (free range). There are approximately 6 cycles per annum, with a break between batches during which time the cleaning of the houses and yards is carried out. The spent poultry litter and manure will be removed from the farm by specialised contractors where it will be used in the composting industry as an organic fertiliser in accordance with S.I. 605 of 2017 (as amended). All records for the movement of fertiliser will be kept on site and presented to the Department of Agriculture, Food and Marine as requested.

Construction methods for the new structures will be standard and will follow best practice guidelines at all stages. All structures will be compliant with the recommendations of the Department of Agriculture, Food and Marine. The operation of the farm and all its associated activities will be done in accordance with S.I. 605 of 2017 (as amended).

S.I. 605 of 2017 (as amended)

The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017 provides a basic set of measures to ensure the protection of waters, including drinking water sources, against pollution caused by nitrogen and phosphorus from agricultural sources, with the primary emphasis being on the management of livestock manures and other fertilisers. The purpose of these Regulations is to give effect to Ireland's Nitrates Action Programme. This Directive outlines measures that must be followed during the land-spreading of manure. These measures are summarised in the points below.

- The amount of livestock manure applied in any year to land on a holding, together with the deposited to land by livestock, shall not exceed an amount containing 170kg per hectare.
- The spreading of any organic fertiliser during certain times of the year is prohibited (The prohibited spreading period, generally between Mid- October and Mid- January)
- Farmers must keep within the overall maximum fertilisation rates for nitrogen and phosphorus.
- Farmers must have sufficient storage capacity to meet the maximum requirements of the regulations.
- All storage facilities must be kept leak proof and structurally sound.
- Records for the movement of fertilisers must be kept.
- Chemical fertilisers, livestock manure and other organic fertilisers, effluents and soiled water must be spread as accurately and evenly as possible.
- An upward-facing splash plate or sludge irrigator on a tanker or umbilical system must be used for the spreading of organic fertiliser or soiled water.
- Chemical fertilisers, livestock manure, soiled water or other organic fertilisers must not be spread when:
    - The land is waterlogged.
    - The land is flooded or is likely to flood.
    - The land is frozen or is covered in snow.
    - Heavy rain is forecast within 48 hours.
    - The ground slopes steeply and there is a risk of water pollution, when factors such as run-off pathways, the presence of land drains, the absence of hedgerows to mitigate surface flow, soil condition and ground cover are taken into account.
- Chemical fertilisers must not be spread on land within 2 meters of a surface watercourse.

Table 1 shows the buffer zones for various water bodies (lakes, rivers, wells etc.). Soiled water, effluents, farmyard manures or other organic fertilisers must not be spread inside these buffer zones.

Water Feature	**Buffer Zone**
Any water supply source providing 100m3 or more of water per day, or serving 500 or more people	200m (or as little as 30m where a local authority allows)
Any water supply source providing 10m3 or more of water per day, or serving 50 people or more	100m (or as little as 30m where a local authority allows)
Any other water supply for human consumption	25m (or as little as 15m where a local authority allows)

Lake shoreline or a turlough likely to flow	20m
Exposed cavernous or karstified limestone features	15m
Any surface watercourse where the slope towards the watercourse exceeds 10˚	10m
Any other surface waters	5m

Table 1 – requirements for the Application of Fertilisers and Soiled Water as set out in S.I. 605 of 2017 (as amended).

Prior to its implementation, S.I. 605 of 2017 (as amended) was subjected to Appropriate Assessment (AA) and a Strategic Environmental Assessment (SEA) Screening at draft stage (March 2017). At this stage, it was referred to as Ireland's Fourth Nitrates Action Programme (NAP). This draft NAP was assessed in terms of the likely significant effects of the programme and where it would adversely affect the integrity of European sites. The NAP identified that the existing measures would be predominantly positive for European sites, the measures of the NAP were influenced to avoid, as appropriate, measures that would have an adverse effect upon the integrity of the European sites. Any project falling under the requirements of the NAP will be required to conform to the mitigation measures contained within the

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site in question is located in a rural area within the townland of Knockdromin, Croagh. Access to the site is off of a local, third class road. The area of the site is c. 6.57 acres. It is c. 2 km NNW of Croagh and c. 6 km WSW of Adare. The land-use surrounding the site is predominantly agricultural and the main habitat is improved agricultural grassland. Other habitats surrounding the site include scrub, fen, treelines, and hedgerows. Site location maps and its surrounding habitats can be seen in an aerial photograph of the site in Figure 3.

HABITATS AND SPECIES

Currently, the main habitats within the application site include improved agricultural grassland habitats. The boundaries of the site consist of treelines, hedgerows, and grassy verges.

An examination of the website of the National Biodiversity Data Centre, revealed that there are no records for the presence of any protected plant or mammal species from the relevant 1km square of this existing development.

WATER FEATURES AND QUALITY

The application site lies within the Shannon River Basin District. There is a stream c. 465m north of the site which drains into the River Maigue via River Clonshire. The River Maigue flows in a northly direction until it flows into the Shannon Estuary north of Kildimo.

All water generated / collected onsite (storm / soiled etc) is collected in underground tanks for reuse / spreading on the surrounding landholdings.

Figure 2: Aerial Photograph of the Site (~outlined in red) and its Surrounding Habitats.

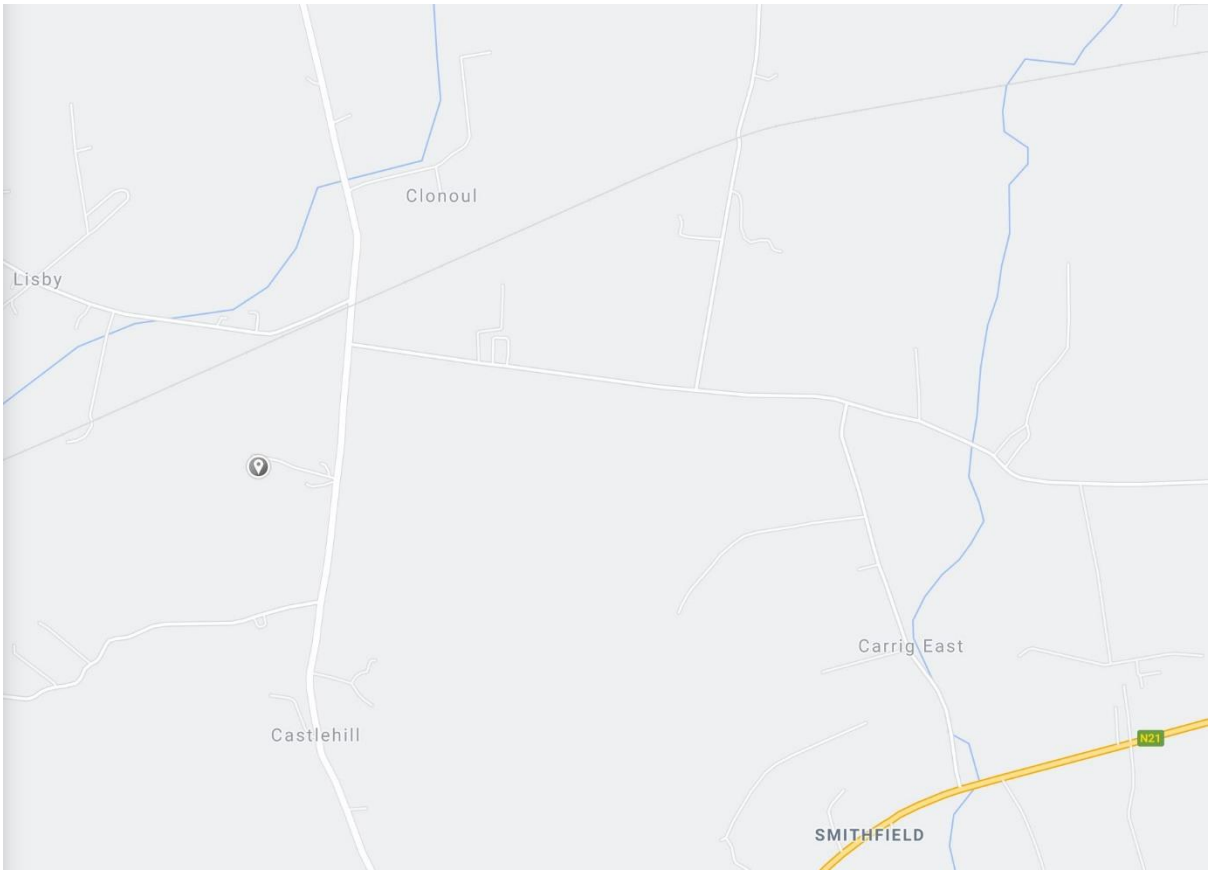


Figure 3: Surrounding Water Features

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 15 km of the existing development have been identified and described according to their site synopses, qualifying interests and conservation objectives. (see *Figure 3: Nearest Natura 2000 Site Receptors)*

There are seven Natura 2000 designated sites within 15km of the application site.

There are two Special Protected Area (SPA) within 15km of the application site.

There are five Special Areas of Conservation (SAC) within 15km of the application site.

There are no Natural Heritage Areas (NHA) within 15km of the application site. These designated areas and their closest points to the existing development site are summarised in Table 2 and a map showing their locations relative to the application site is shown in figures 4 & 5. A full description of these sites can be read on the website of the National Parks and Wildlife Service (npws.ie).

Designated Site details:

Search Radius 15 km RUN RECEPTOR SEARCH

No. of Designated Sites 7 found VERIFY RECEPTOR LOCATIONS

Site No.	Name	Distance(km)	Designation	Country	Easting	Northing
1	Askeaton Fen Complex SAC	2.782	SAC	Ireland	137780	145861
2	Curraghchase Woods SAC	3.278	SAC	Ireland	141161	147971
3	Lower River Shannon SAC	5.815	SAC	Ireland	145837	146720
4	River Shannon and River Fergus Estuaries SPA	8.829	SPA	Ireland	133861	150784
5	Barrigone SAC	11.396	SAC	Ireland	130092	149760
6	Tory Hill SAC	12.683	SAC	Ireland	152844	142614
7	Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA	14.277	SPA	Ireland	126257	142508

Figure 4: Nearest Natura 2000 Site Receptors

Site Name & Code	Distance from Existing Development	Qualifying Interests
Askeaton Fen Complex SAC **Site code** 002279	2.782 km	Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Alkaline fens [7230]
Curraghchase Woods SAC **Site code** 000174	3.278 km	*Qualifying Interests* Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Taxus baccata woods of the British Isles [91J0] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016] Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]
Lower River Shannon SAC **Site code** 002165	5.815 km	Sandbanks which are slightly covered by sea water all the time [1110] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150]

		Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [1106]

		Tursiops truncatus (Common Bottlenose Dolphin) [1349] Lutra lutra (Otter) [1355]
River Shannon & River Fergus Estuaries SPA **Site code** 004077	8.829 km	Qualifying Interests Cormorant (Phalacrocorax carbo) [A017] Whooper Swan (Cygnus cygnus) [A038] Light-bellied Brent Goose (Branta bernicla hrota) [A046] Shelduck (Tadorna tadorna) [A048] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054] Shoveler (Anas clypeata) [A056] Scaup (Aythya marila) [A062] Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Knot (Calidris canutus) [A143] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156]

		Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Greenshank (Tringa nebularia) [A164] Black-headed Gull (Chroicocephalus ridibundus) [A179] Wetland and Waterbirds [A999]
Barrigone SAC **Site code** 000432	11.396 km	*Qualifying Interests* Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Limestone pavements [8240] Euphydryas aurinia (Marsh Fritillary) [1065]
Tory Hill SAC **Site code** 000439	12.683 km	**Qualifying Interests** Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Alkaline fens [7230]

Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA **Site code** 004161	14.277 km	Hen Harrier (Circus cyaneus) [A082]

Table 2 – Natura 2000 Sites within 15km of the Existing Site

The Conservation Objective (Generic) of these sites are:
To maintain or restore the favourable conservation condition of Annex I habitat(s) and/or the Annex II species for which the designated area has been selected.

The favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing and 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, sufficiently large habitat to maintain its populations on a long-term basis.

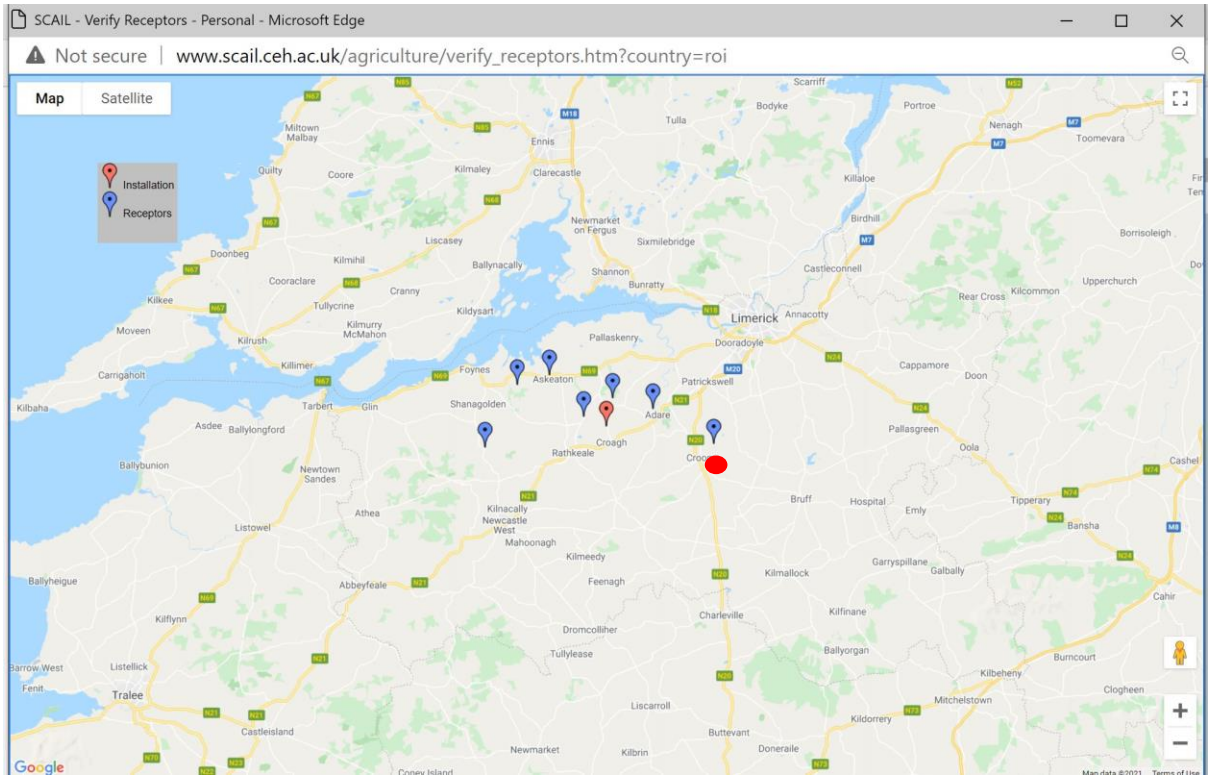


Figure 5: The application site (Red Pin) in relation to Spas, SACs, NHAs (pinned)

3.4 ASSESSMENT CRITERIA

The impacts (if any) of the existing development on the Natural Heritage 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 Natural Heritage Site.
The impacts from the construction and operation of the proposed development at Knockdromin, Croagh will be negligible upon the integrity or the site structure of the designated sites identified. There are individual elements of the existing project that are likely to give rise to negative impacts on these Natural Heritage Sites. There may be potential impacts upon designated habitats or species arising from the predicted emissions from this facility on Curraghchase Woods SAC. There are other agricultural activities ongoing close to the current application site. Therefore, cumulative impacts arising from the operation of these farms together were considered. All farms, regardless of whether licensed by the EPA or not, are

required to operate within the legislation defined in S.I. 605 of 2017 (as amended) regarding manure storage, minimisation of soiled water and general good agricultural practice etc. Therefore, cumulative impacts arising from the combined operation of these activities with the existing operation of the poultry farm at Knockdromin will be negligible.

The use of the poultry manure produced at the existing facility in the composting industry has also been considered as part of this process. Records for the distribution and movement of all the manure produced will be kept on site and presented to the Department of Agriculture, Food and Marine if necessary. All organic fertilisers will be used in Greengas Ad Plant, therefore, there will be no overall increase in the amount of nutrients spread.

All soiled water from this development will be spread on the applicant's landholdings, done in accordance with S.I. 605 of 2017 (as amended). This will minimise run-off from land into local watercourses.

All farmers that receive the soiled water from the existing farm will do so under the European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2014 (S.I. 605 of 2017 (as amended)). Upon the receipt of the manure, they will be informed of their obligation under this legislation. Compliance with these regulations will minimise cumulative impacts as well as any impacts upon water quality.

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 Natura 2000 sites identified, then the likelihood of any direct, indirect, or cumulative impacts upon this designated site is 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. There will be no loss of any undesignated priority habitats.

Distance from Natura 2000 site or key features of the site: The closest Natura 2000 Site to the application site is the Askeaton Fen Complex SAC and this is 2.782 km to the South West.

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 designated site.

Emissions: There will be no impacts on any designated site arising from emissions to surface water features of the designated sites. All waters generated onsite will be collected for spreading on surrounding family landholdings. Any associated land-spreading of the soiled water from this development will be done in accordance with S.I. 605 of 2017 (as amended). This will minimise run-off from land into local watercourses.

In order to predict atmospheric emissions (ammonia and nitrogen) from this development

of this facility, a SCAIL model (Simple Calculation of Atmospheric Impact Limits) (Appendix 1) was run by QFT Ireland EHS Consultants to determine the potential impacts on the Natura 2000 sites identified. In this instance a number of factors were taken into account, such as the use of natural ventilation. Using these parameters, it was determined that:

There are no exceedance on the upper level limit on any of the Natura 2000 sites identified from the existing development based on the parameters used. The lower level of impact for compounds measured showed a level of exceedance for 6 No. of the Natura 2000 sites identified.

For the ***Askeaton Fen Complex,*** the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.04042 µg/m3. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.10 %. These additional loads can therefore be considered as de-minimus.

For the ***Curraghchase Woods SAC***, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.0319 µg/m3. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.13 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the SAC will be 0.24 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 18.23 %. These additional loads can therefore be considered as major.

The process contribution for Acid Deposition at the edge of the SAC will be 0.016 kEq H+/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 2.73 %. These additional loads can therefore be considered as de-minimus.

For the ***Lower River Shannon***, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.01234 µg/m3. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.16 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the SAC will be 0.06 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 5.38%. These additional loads can therefore be considered as minor.

For the ***River Shannon and River Fergus Estuaries SPA***, the process contribution for Ammonia (NH3) at the edge of the SPA will be 0.00626 µg/m3. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.03 %. These additional loads can therefore be considered as de-minimus.

For the ***Barrigone SAC***, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.00413 µg/m3. The percentage of the Environmental Load / Level that is

accounted for by the process contribution alone of the existing development is 0.00 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the NHA will be 0.02 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 8.31 %. These additional loads can therefore be considered as minor.

The process contribution for Acid Deposition at the edge of the SAC will be 0.001 kEq H+/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 1.39 %. These additional loads can therefore be considered as de-minimus.

For the **Tory Hill SAC**, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.00347 μg/m3. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.23 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the SAC will be 0.02 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 1.57 %. These additional loads can therefore be considered as de-minimus.

The process contribution for Acid Deposition at the edge of the SAC will be 0.001 kEq H+/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 1.37 %. These additional loads can therefore be considered as de-minimus.

For the ***Stacks to the Mullaghareirk Mountains*** the operations of the proposed development will have no impacts upon the Natura 2000 site identified

Excavation requirements: N/A

In-Combination / Cumulative Impacts: the existing application was considered in combination with other developments or existing developments in the Knockdromin area and the surrounding townlands. One commercial development (on an adjacent same site) has been granted planning permission in the preceding years i.e., The construction of a poultry house and all associated site works. Planning Ref: 16/515. Any future individual application that has the potential to impact upon a Natura 2000 site will be subject to Appropriate Assessment as required under Articles 6(3) of the Habitats Directive.

Transportation requirements:

Duration of construction, operation, decommissioning etc: N/A

Describe any likely changes to the nearby Natura 2000 sites arising as a result of:

Reduction of Habitat area: The existing development lies outside the boundaries of the Natura 2000 sites identified in Section 3.3. There will be no reduction of designated

habitat area. Only areas of intensively managed grassland will be lost due to the construction of the existing development. This has little ecological value. There will be no interference with the boundaries of any designated sites. **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. **Habitat or species fragmentation:** There will be no habitat or species fragmentation within any SPA, SAC or NHA. No ecological corridors between the existing site and any designated area will be damaged or destroyed. **Reduction in species density:** There will be no reduction in species density. **Changes in key indicators of conservation value (water quality etc.):** There will be no negative impacts upon water quality in any designated site.
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 considered likely that there will be no adverse 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.):** Likely

3.5 FINDING OF NO SIGNIFICANT EFFECTS

Findings of No Significant Effects Report Matrix	
Name of project	Existing Poultry Farm at Knockdromin, Croagh, Co. Limerick.
Name and location of Natura 2000 site	The closest Natura 2000 site to the application is the Askeaton Fen SAC and this is 2.782 km to the South West of the application site.
Description of project	An Agricultural Development
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 accessed could affect this site	All farmland surrounding this existing development must operate within the requirements of S.I. 605 of 2017 (as amended). Compliance with this legislation will minimise any in-combination effects
The Assessment of Significance of Effects	
Describe how the project is likely to affect the Natura 2000 sites	Potential impacts likely
Explain why these effects are not considered significant	given the distance of the existing project from the identified Natura 2000 sites and the prevailing winds, it will not have a significant effect on the conservation objectives or integrity of these sites
Describe how the project is likely to affect species designated under Annex II of the Habitats Directive	Nitrogen may cause respiratory problems in animals and can cause the acidification of soils when deposited.
Data Collected to Carry out the Assessment.	
Who carried out the assessment	Keith Massey BSc (Hons) SIIRSM EHS Consultant
Sources of data	NPWS, EPA, National Biodiversity Data Centre, Limerick City and County Council, Woodland trust.
Level of assessment completed	Stage 1 Appropriate Assessment Screening
Where can the full results of the assessment be accessed and viewed	Full results included

4 APPROPRIATE ASSESSMENT CONCLUSIONS

The emissions of Nitrogen from the existing development exceed the Lower limit of 1 No. of Natura 2000 sites, i.e. Curraghchase Woods SAC (worst case scenario) by 18.23%. It can be concluded objectively that this existing development has the potential to adversely affect the conservation objectives or integrity of this site, and the habitats and species associated with this site may be adversely affected, and as such an appropriate assessment of this development is necessary.

Keith Massey BSc (Hons) SIIRSM
EHS Consultant
QFT Ireland EHS Consultants

Appendix 1

SCAIL MODELLING REPORT

For the Development at
Knockdromin
Croagh
Co. Limerick

Prepared for: Michael Hanley

Prepared by: QFT Ireland EHS Consultants

Ref: MHJ2021

	Date	Details	Prepared by
	10 Feb 2021	Final Report	Keith Massey Environmental Consultant

1.0 Introduction

The purpose of this SCAIL assessment is to assess the impact of the existing development will have on ecology of the area, in particular, the process contribution on the existing ammonia / Nitrogen levels of the area.

Basic ammonia / Nitrogen modelling has been carried out and are discussed and analysed within this report.

2.0 Site Location

The site in question is located in a rural area within the townland of Knockdromin, Croagh, Co. Limerick. Access to the site is off of a local, third class road. The area of the site is c. 6.57 acres. It is c. 2 km NNW of Croagh and c. 6 km WSW of Adare.

The poultry operation a total of 12,000 free range birds in the existing unit. The unit is naturally ventilated.

3.0 Protected Environmental Sites

Within a 15km radius of the existing site, there are 7 protected environmental sites. The closest being 2.782 km of the development. The closest environmental site is known as Askeaton Fen Complex SAC Protected environmental sites are illustrated in the table No.1 below:

Site No.	Name	Distance(km) Direction From Site	Designation	Country	Site Code
1	Askeaton Fen Complex	2.782 EbN	SAC	Republic of Ireland	002279
2	Curraghchase Woods	3.278 NbE	SAC	Republic of Ireland	000174
3	Lower River Shannon	5.815 EbN	SAC	Republic of Ireland	002165
4	River Shannon and River Fergus Estuaries	8.829 NW	SPA	Republic of Ireland	004077
5	Barrigone	11.396 WNW	SAC	Republic of Ireland	000432
6	Tory Hill	12.683 EbS	SAC	Republic of Ireland	000439
7	Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle	14.277 WbS	SPA	Republic of Ireland	004161

Table No.1 – Protected Environmental Sites within 15km of Development Site.

4.0 SCAIL Modelling

SCAIL is an acronym for "Simple Calculation of Atmospheric Impact Limits. It is a basic screening tool to assess the potential impact from agricultural sources on protected environmental sites. The SCAIL assessment provides the assessor with a worst – cast scenario of the impact of agricultural developments.

The SCAIL modelling provides information on the background concentrations and depositions at the receptor and the process contribution the development will have on those critical levels.

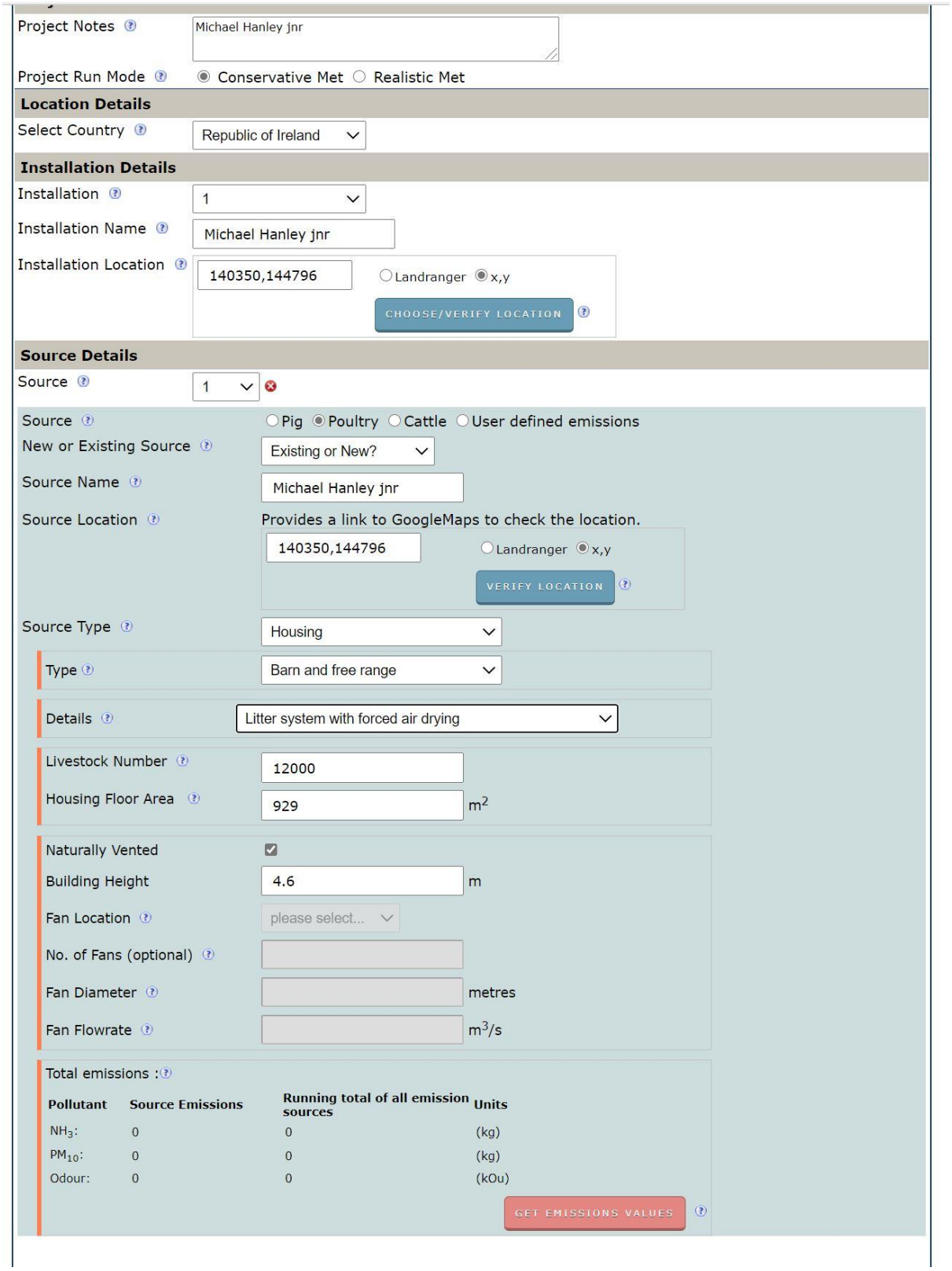
In Appendix A you will find the calculations of the SCAIL for the 8 protected environmental sites for the development of the poultry house.

In relation to the Poultry Unit and its associated emissions, it is calculated that it will have a 17.94% or less process contribution all designated environmental sites within 15km of the development on the lower level of impact. There is no exceedance on the upper level of impact of any of the designated environmental sites identified from the existing unit.

5.0 Conclusion

In light of the SCAIL Modelling, it is considered that the existing development has the potential to adversely affect one protected environmental site within 15km of the development and as such a Stage II Appropriate Assessment will be required as part of any further development planning application for the site.

APPENDIX A – SCAIL MODELLING CALCULATION



Source Details

Site Information Askeaton Fen Complex SAC (SAC)

Region:	Republic of Ireland
Site Name:	Askeaton Fen Complex SAC
Site Code:	002279
Designation Status:	SAC
Distance from Installation (m):	2782
Receptor Type:	Habitat
Grid Reference:	137780.4,145861
Met Site:	SHAN
Run Mode:	Conservative
PM_{10} Percentile:	Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 (µg/m3)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} (µg/m3)	Conc Odour (Ou/m3)
1	Michael Hanley jnr	1	0	-	1.4	-	0.04	0.21	0.014	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH_3 (µg/m3)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM_{10} (µg/m3)	Odour (Ou/m3)
Process Contribution (PC) at receptor edge	0.04042	0.21	0.014	-	-
Background concentration at receptor edge	1.06	13.29	1.92 (N:0.95|S:0.97)	-	-
Predicted Environmental Concentration/Deposition (PEC)	1.1	13.5	1.93	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	15.0 Alkaline fens	No sensitive habitat or species at this site	-	-
		ALTERNATIVE CRITICAL LOAD INFO			
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 4% Upper: 1%	1%	n/a	-	-
% of relevant standard PEC	Lower: 110% Upper: 37%	90%	n/a	-	-
EXCEEDANCE	Lower: 0.10 Upper: No exceedance	-1.50	n/a	-	-

Project Notes

Michael Hanley jnr

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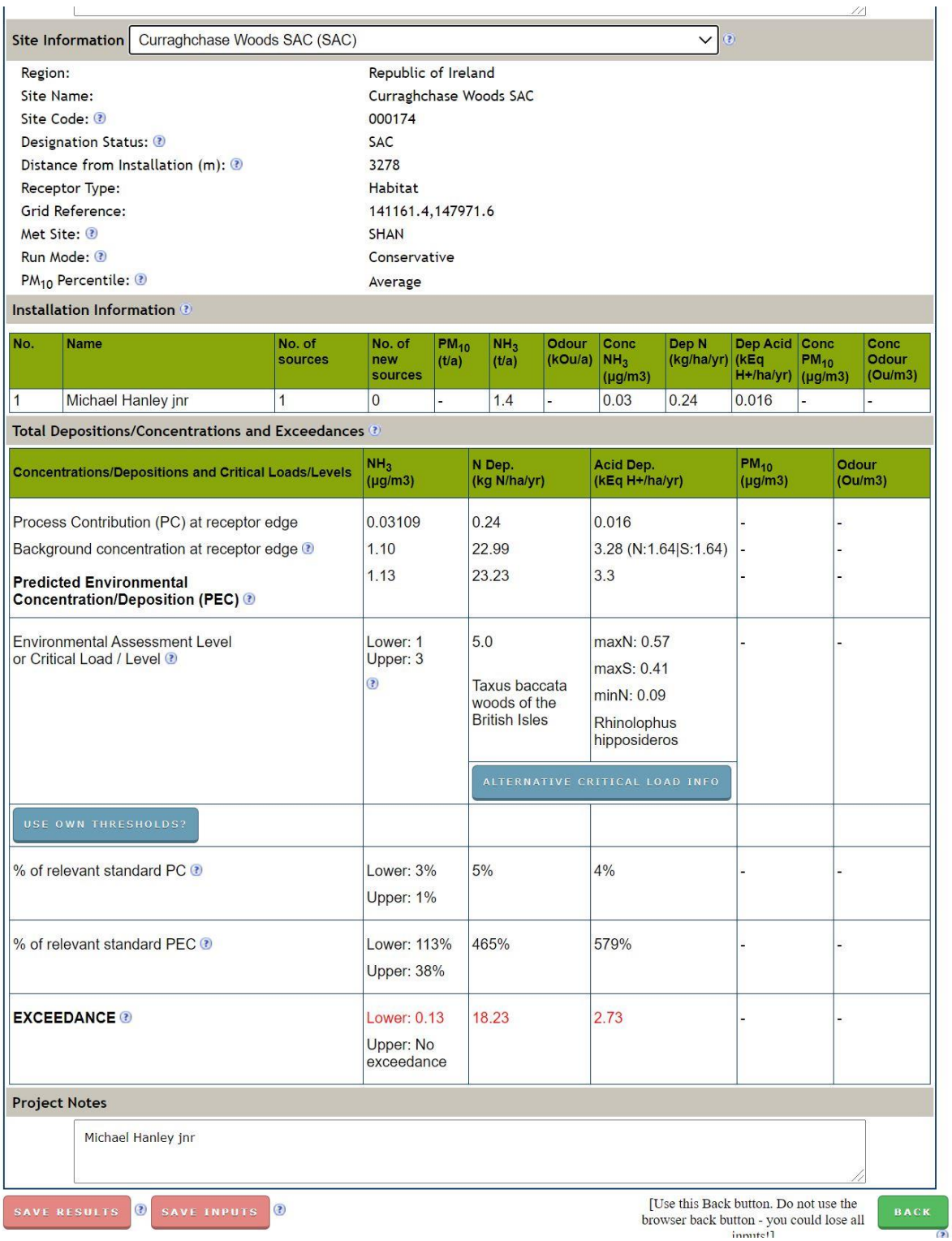
Askeaton Fen Complex (SAC)



Site Information Curraghchase Woods SAC (SAC)

Region:	Republic of Ireland
Site Name:	Curraghchase Woods SAC
Site Code:	000174
Designation Status:	SAC
Distance from Installation (m):	3278
Receptor Type:	Habitat
Grid Reference:	141161.4,147971.6
Met Site:	SHAN
Run Mode:	Conservative
PM_{10} Percentile:	Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 (µg/m3)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} (µg/m3)	Conc Odour (Ou/m3)
1	Michael Hanley jnr	1	0	-	1.4	-	0.03	0.24	0.016	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH_3 (µg/m3)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM_{10} (µg/m3)	Odour (Ou/m3)
Process Contribution (PC) at receptor edge	0.03109	0.24	0.016	-	-
Background concentration at receptor edge	1.10	22.99	3.28 (N:1.64|S:1.64)	-	-
Predicted Environmental Concentration/Deposition (PEC)	1.13	23.23	3.3	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Taxus baccata woods of the British Isles ALTERNATIVE CRITICAL LOAD INFO	maxN: 0.57 maxS: 0.41 minN: 0.09 Rhinolophus hipposideros	-	-
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 3% Upper: 1%	5%	4%	-	-
% of relevant standard PEC	Lower: 113% Upper: 38%	465%	579%	-	-
EXCEEDANCE	Lower: 0.13 Upper: No exceedance	18.23	2.73	-	-

Project Notes

Michael Hanley jnr

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Curraghchase Woods (SAC)

Site Information Lower River Shannon SAC (SAC)

Region:	Republic of Ireland
Site Name:	Lower River Shannon SAC
Site Code:	002165
Designation Status:	SAC
Distance from Installation (m):	5815
Receptor Type:	Habitat
Grid Reference:	145837.2,146720.6
Met Site:	SHAN
Run Mode:	Conservative
PM_{10} Percentile:	Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 (µg/m3)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} (µg/m3)	Conc Odour (Ou/m3)
1	Michael Hanley jnr	1	0	-	1.4	-	0.01	0.06	0.004	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH_3 (µg/m3)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM_{10} (µg/m3)	Odour (Ou/m3)
Process Contribution (PC) at receptor edge	0.01234	0.06	0.004	-	-
Background concentration at receptor edge	1.15	13.32	1.92 (N:0.95|S:0.97)	-	-
Predicted Environmental Concentration/Deposition (PEC)	1.16	13.38	1.92	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	8.0 Perennial vegetation of stony banks ALTERNATIVE CRITICAL LOAD INFO		-	-
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 1% Upper: 0%	1%	n/a	-	-
% of relevant standard PEC	Lower: 116% Upper: 39%	167%	n/a	-	-
EXCEEDANCE	Lower: 0.16 Upper: No exceedance	5.38	n/a	-	-

Project Notes

Michael Hanley jnr

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Lower River Shannon (SAC)

Site Information River Shannon and River Fergus Estuaries SPA (SPA)

Region:	Republic of Ireland
Site Name:	River Shannon and River Fergus Estuaries SPA
Site Code:	004077
Designation Status:	SPA
Distance from Installation (m):	8829
Receptor Type:	Habitat
Grid Reference:	133861.8,150784.1
Met Site:	SHAN
Run Mode:	Conservative
PM_{10} Percentile:	Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 (µg/m3)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} (µg/m3)	Conc Odour (Ou/m3)
1	Michael Hanley jnr	1	0	-	1.4	-	0.01	0.03	0.002	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH_3 (µg/m3)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM_{10} (µg/m3)	Odour (Ou/m3)
Process Contribution (PC) at receptor edge	0.00626	0.03	0.002	-	-
Background concentration at receptor edge	1.02	12.93	1.88 (N:0.92|S:0.96)	-	-
Predicted Environmental Concentration/Deposition (PEC)	1.03	12.96	1.88	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	No sensitive habitat or species at this site	No sensitive habitat or species at this site	-	-
		ALTERNATIVE CRITICAL LOAD INFO			
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 1% Upper: 0%	n/a	n/a	-	-
% of relevant standard PEC	Lower: 103% Upper: 34%	n/a	n/a	-	-
EXCEEDANCE	Lower: 0.03 Upper: No exceedance	n/a	n/a	-	-

Project Notes

Michael Hanley jnr

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River Shannon and River Fergus Estuaries (SPA)

Site Information Barrigone SAC (SAC)

Region:	Republic of Ireland
Site Name:	Barrigone SAC
Site Code:	000432
Designation Status:	SAC
Distance from Installation (m):	11396
Receptor Type:	Habitat
Grid Reference:	130092.1,149760
Met Site:	SHAN
Run Mode:	Conservative
PM_{10} Percentile:	Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 (µg/m3)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} (µg/m3)	Conc Odour (Ou/m3)
1	Michael Hanley jnr	1	0	-	1.4	-	0	0.02	0.001	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH_3 (µg/m3)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM_{10} (µg/m3)	Odour (Ou/m3)
Process Contribution (PC) at receptor edge	0.00413	0.02	0.001	-	-
Background concentration at receptor edge	0.99	13.29	1.93 (N:0.95|S:0.98)	-	-
Predicted Environmental Concentration/Deposition (PEC)	0.99	13.31	1.93	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Limestone pavements ALTERNATIVE CRITICAL LOAD INFO	maxN: 0.54 maxS: 0.46 minN: 0.02 Euphydryas (Eurodryas, Hypodryas) aurinia	-	-
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 0% Upper: 0%	0%	0%	-	-
% of relevant standard PEC	Lower: 99% Upper: 33%	266%	357%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	8.31	1.39	-	-

Project Notes

Michael Hanley jnr

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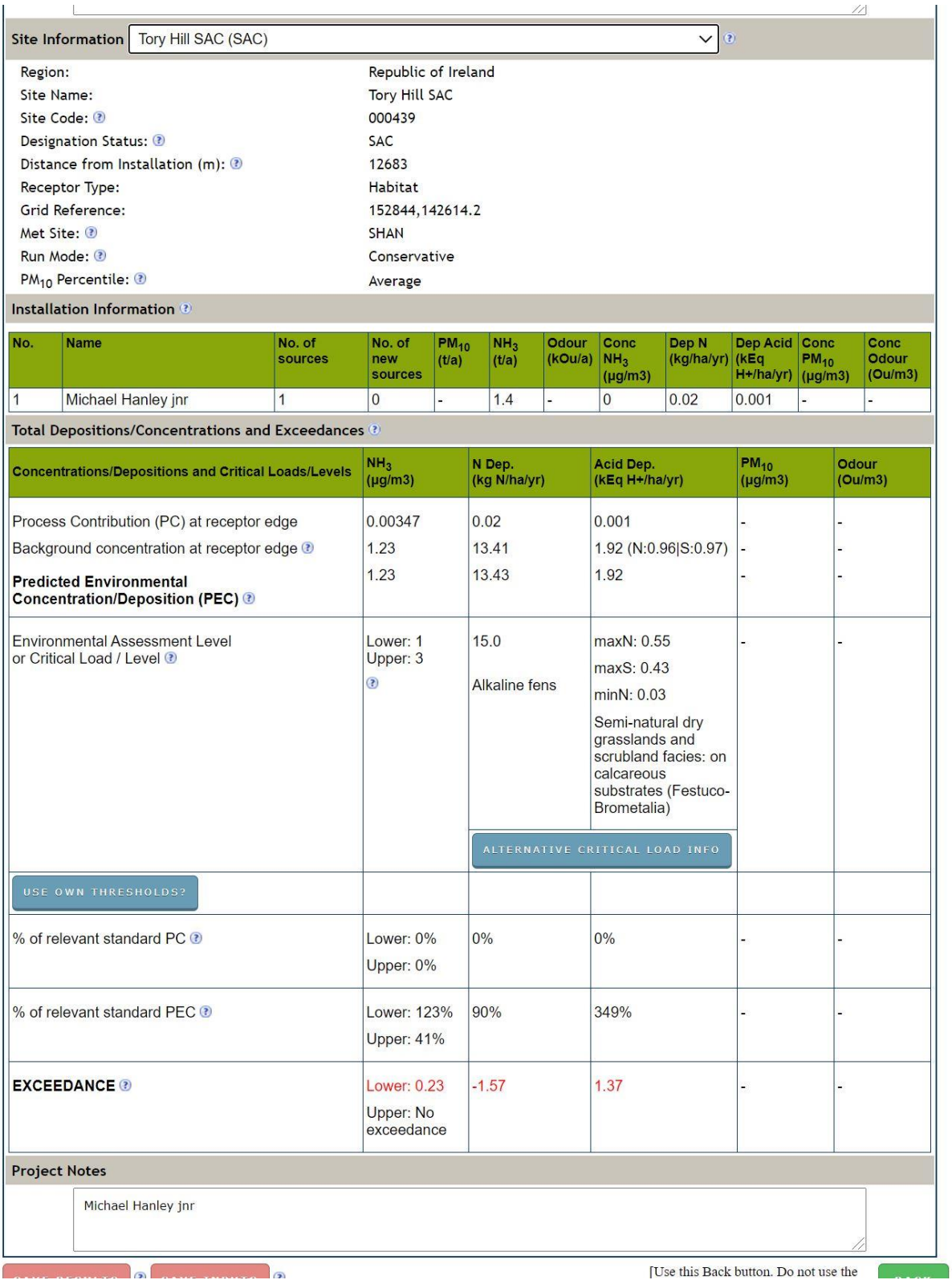
Barrigone (SAC)



Site Information Tory Hill SAC (SAC)

Region:	Republic of Ireland
Site Name:	Tory Hill SAC
Site Code:	000439
Designation Status:	SAC
Distance from Installation (m):	12683
Receptor Type:	Habitat
Grid Reference:	152844,142614.2
Met Site:	SHAN
Run Mode:	Conservative
PM_{10} Percentile:	Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 (µg/m3)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} (µg/m3)	Conc Odour (Ou/m3)
1	Michael Hanley jnr	1	0	-	1.4	-	0	0.02	0.001	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH_3 (µg/m3)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM_{10} (µg/m3)	Odour (Ou/m3)
Process Contribution (PC) at receptor edge	0.00347	0.02	0.001	-	-
Background concentration at receptor edge	1.23	13.41	1.92 (N:0.96|S:0.97)	-	-
Predicted Environmental Concentration/Deposition (PEC)	1.23	13.43	1.92	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	15.0 Alkaline fens ALTERNATIVE CRITICAL LOAD INFO	maxN: 0.55 maxS: 0.43 minN: 0.03 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia)	-	-
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 0% Upper: 0%	0%	0%	-	-
% of relevant standard PEC	Lower: 123% Upper: 41%	90%	349%	-	-
EXCEEDANCE	Lower: 0.23 Upper: No exceedance	-1.57	1.37	-	-

Project Notes

Michael Hanley jnr

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Tory Hill (SAC)

Site Information Stack#s to Mullaghareirk Mountains| West Limerick Hills and Mount Eagle SPA (SPA)

Region:	Republic of Ireland
Site Name:	Stack#s to Mullaghareirk Mountains| West Limerick Hills and Mount Eagle SPA
Site Code:	004161
Designation Status:	SPA
Distance from Installation (m):	14277
Receptor Type:	Habitat
Grid Reference:	126257.7,142508.5
Met Site:	SHAN
Run Mode:	Conservative
PM_{10} Percentile:	Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM_{10} (t/a)	NH_3 (t/a)	Odour (kOu/a)	Conc NH_3 (µg/m3)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM_{10} (µg/m3)	Conc Odour (Ou/m3)
1	Michael Hanley jnr	1	0	-	1.4	-	0	0.01	0.001	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH_3 (µg/m3)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM_{10} (µg/m3)	Odour (Ou/m3)
Process Contribution (PC) at receptor edge	0.00286	0.01	0.001	-	-
Background concentration at receptor edge	0.97	13.50	1.97 (N:0.96|S:1.00)	-	-
Predicted Environmental Concentration/Deposition (PEC)	0.97	13.51	1.97	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	No sensitive habitat or species at this site	No sensitive habitat or species at this site	-	-
		ALTERNATIVE CRITICAL LOAD INFO			
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 0% Upper: 0%	n/a	n/a	-	-
% of relevant standard PEC	Lower: 97% Upper: 32%	n/a	n/a	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	n/a	n/a	-	-

Project Notes

Michael Hanley jnr

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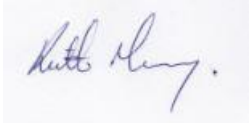
Stacks to Mullaghareirk (SPA)

Michael Hanley

If you have any queries please contact:
Keith Massey 087 6144992 / Pat Bourke of QFT Ireland on 087 6772708
Kind regards

Keith Massey Bsc (hons) SIIRSM



Pat Bourke. RSP Grad IOSH FIIRSM

12/02/2021

Gortroe; Newcastle West; Co. Limerick. (m) 087 6772708; pat@qftireland.com
SOLAS Registered 901504.

Appendix No. 17- Natura Impact Statement

Natura Impact Statement
Michael Hanley
Knockdromin
Croagh
Co. Limerick

Prepared by: Keith Massey Bsc Hons SIIRSM
QFT Ireland Ltd, Gortroe, Newcastle West Co. Limerick

Table of Contents

Introduction

An Appropriate Assessment is carried out to assess the potential effects a proposed projector plan, (on its own, or in combination with other plans or projects) could have on one or more European Sites – Special Areas of Conservation (SAC) or Special Protection Areas (SPA).

This Natura Impact Statement (NIS) has been prepared by QFT IRELAND Ltd., in support of an Appropriate Assessment for a proposed extension to a poultry unit at Knockdromin, Croagh, Co. Limerick for the client Michael Hanley. This NIS has been prepared on behalf of Michael Hanley to support the completion of an Appropriate Assessment.

The purpose of this report is to determine the impact, if any, of the aforementioned Poultry Unit on European Sites, taking into account all potential emissions, including nutrientemissions to air, to the Natura 2000 sites identified in the screening for Appropriate Assessment report.

1.1 Background

Michael Hanley operates a traditional bovine & poultry farm at Knockdromin, Croagh, Co. Limerick. The Poultry facility has operated at the site in Knockdromin since the 1988 - Site Location Map attached.

2. Legislation Context

Under the E.U. Birds (79/409/EEC) and Habitats (92/43/EEC) Directives, member states are required to designate areas in order to protect priority habitats and species. These sites areknown as Special Protection Areas (SPA) and Special Areas of Conversation (SAC).

Collectively, these sites are referred to as European Sites.

Any plan or project that Is likely to have a potential impact on a NATURA 2000 Site mustundergo an Appropriate Assessment to determine the potential impacts, and where necessary, devise appropriate measures to prevent or minimise any such impacts.

The requirements for an Appropriate Assessment are set out in the E.U. Habitats Directive.Articles 6(3) and 6(4) of this Directive states:

Article 6(3): "Any plan or project not directly connected with or necessary to the management of the [NATURA 2000] site but likely to have a significant effect thereon, eitherindividually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the component national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrityof the site concerned and, if appropriate, after having obtained the opinion of the general public"

Article 6(4): "Appropriate assessments of the implications of the plan or project for the site concerned must precede its approval and take into account the cumulative effects which result from the combination of that plan or project with other plans or projects in view of thesite's conservation objectives. This implies that all aspects of the plan or project which can, either individually or in combination with other plans or projects, affect those objectives must be identified in the light of the best scientific knowledge in the field.

Assessment procedures of plans or projects likely to affect European Sites should guaranteefull consideration of all elements contributing to the site integrity and to the overall coherence of the network, both in the definition of the baseline conditions and in the stagesleading to identification of potential impacts, mitigation measures and residual impacts.

These determine what has to be compensated, both in quality and quantity, Regardless of whether the provisions of Article 6(3) are delivered following existing environmental impactsassessment procedures or other specific methods, it must be ensured that:

1. *Article 6(3) assessment results allow full traceability of the decisions eventually made,including the selection of alternatives and any imperative reasons of overriding publicinterest.*

2. *The assessment should include all elements contributing to the site's integrity and to the overall coherence of the network as defined in the site's conservation objectives and Standard Data Form, and be based on best available scientific knowledge in the field. Theinformation required should be undated and could include the following issues:*
    - *Structure and function, and the respective role of the site's ecological assets;*
    - *Area, representatively and conservation status of the priority and non-priority habitatsin the site;*
    - *Population size, degree of isolation, ecotype, genetic pool, age class structure, and conservation status of species under Annex II of the Habitats Directive or Annex I of theBirds Directive present in the site;*
    - *Role of the site within the biographical region and in the coherence of the NATURA2000 network; and,*
    - *Any other ecological assets and functions identified in the site.*

3. *It should include a comprehensive identification of all potential impacts of the plan or projectlikely to be significant on the site, taking into account cumulative impacts and other impacts likely to arise as a result of the combined action of the plan or project under assessment and other plans or projects.*
4. *The assessment under Article 6(3) applies the best available techniques and methods, toestimate the extent of the effects of the plan or project on the biological integrity of the site(s) likely to be damaged.*
5. *The assessment provides for the incorporation of the most effective mitigation measures intothe plan or project concerned, in order to avoid, reduce or even cancel the negative impacts on the site.*
6. *The characterisation of the biological integrity and the impact assessment should be based on the best possible indicators specific to the NATURA 2000 assets which must also be usefulto monitor the plan or project implementation."*

Methodology for Appropriate Assessment

This assessment follows the methodological guidance set out in the document 'Assessment of plans and projects significantly affecting European Sites, Methodological Guidance on theprovisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (2001), the European Commission Guidance 'Managing European Sites' and 'Appropriate Assessment of Plans andProjects in Ireland – Guidance for Planning Authorities', issued in 2009 by the Department of the Environment, Heritage and Local Government (revised in 2010) .
The assessment requirements of Article 6 are generally dealt with in a stage by stageapproach. The stages proposed by the Guidance Document are:

Stage 1: Screening

- Description of the activity
- Identification of European Sites (SACs and SPAs) within the zone of influence of theunit
- Identification of the likely impacts (alone or in combination) arising from theoperation of the activity.
- Conclusions

The process 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 theseimpacts are likely to be significant.

Stage 2: Appropriate Assessment

- Descriptions of European Sites that relate.
- Descriptions of likely impacts that could impinge the features of the aforementioned European Sites.
- Mitigation Measures
- Conclusions

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 sites 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 the objectives of the process orthe plan that avoid adverse impacts on the integrity of the NATURA 2000 site.

Stage 1 – Screening

4.1 Description of the activity

Michael Hanley is the owner of the Poultry Unit at Knockdromin, Croagh, Co. Limerick (see site location map) Michael Hanley will be applying to the EPA for alicence as part of this development.

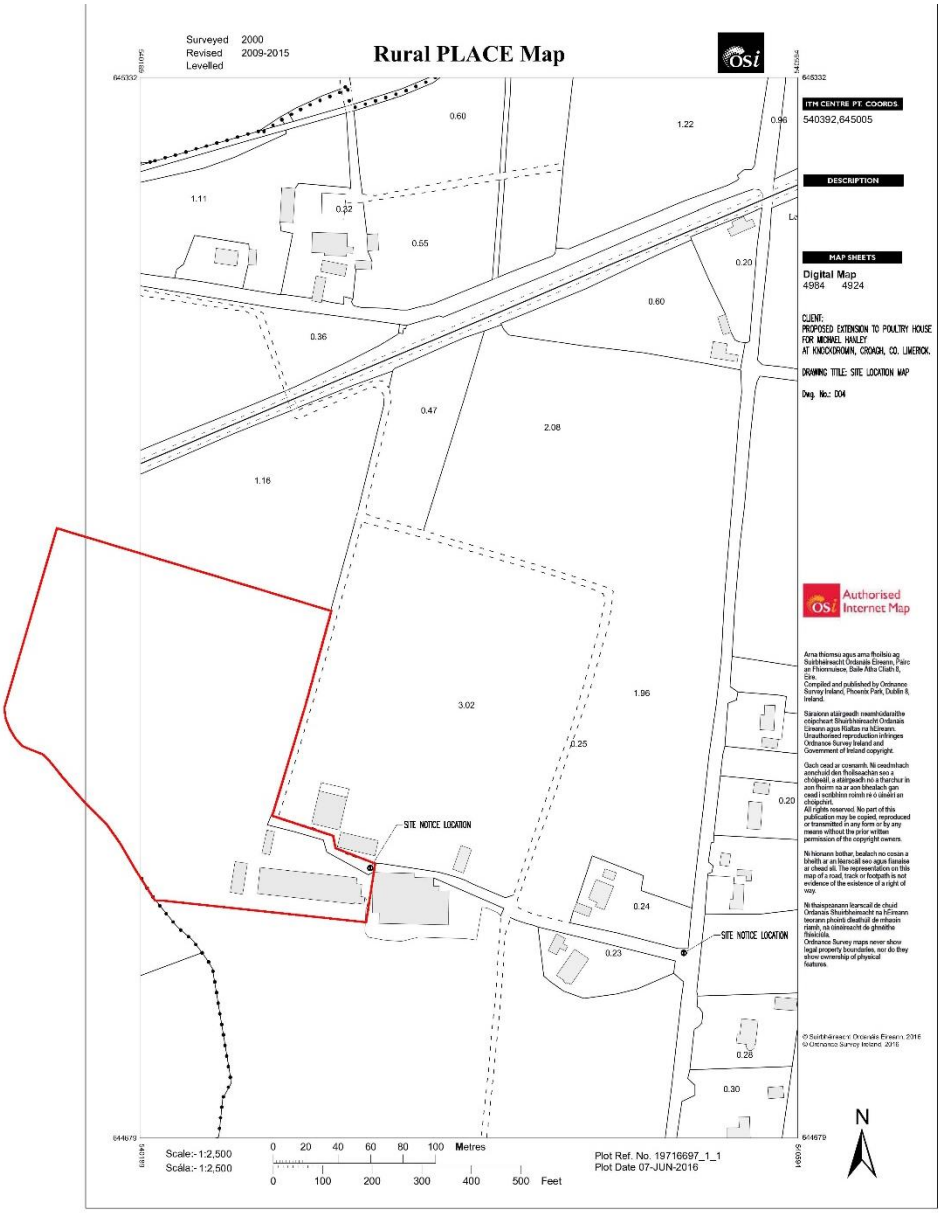


Figure 1: *Site Location Map*

4.2 Class of activity

Class as per the 1st schedule of the EPA Act 1992 as amended: 6.1 The rearing of poultry in installations, whether within the same complex or within 100 metres of the same complex, where the capacity exceeds 40,000 places.

Table 1: *Chronology of the Poultry Farm*

Planning Ref No	Description	Date	Submitted

Michael Hanley

8728022	Erection of broiler house and associated site works	04/09/1987 Grant Date	Michael Hanley
16/515	the construction of a poultry house and carry out all associated site works...	03/11/2016 Grant Date	Michael Hanley

The Poultry Farm when fully developed will comprise of the following stock numbers:

Table 2: *Poultry farm Stack Numbers*

House No.	***Bird Type***	***Stock Numbers / batch***	***No of batches/year***
1 (proposed development when complete)	Free Range	26'250	5
2	Free Range	27'150	5

Animals at the poultry units will produce approximately 150 – 185 tonnes of manure annually. Manure will be cleaned out at the end of each life cycle and removed offsite by contractors for use in the composting industry in Co. Wexford. All soiled water from the washings of the poultry units will be collected in underground storage tanks onsite (capacity 117.6 m^3) and applied to landholdings by Michael Hanley by mechanical equipment. These are all required to operate in compliance with the European Communities (Good Agricultural for Protection of Waters) Regulations S.I. 605 of 2017).

All clean storm water is diverted to the storm water underground storage tanks (capacity 36 m^3) for reuse in all washing operations onsite. These storage systems will be monitored and maintained regularly.

4.3 Conservation objectives of the NATURA 2000 Site

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species, listed in the Habitats and Birds Directive and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them.These two designations are collectively known as the NATURA 2000 network.

European and National legislation places a collective obligation on Ireland and its citizens tomaintain habitats and species in the NATURA 2000 network at favourable conservation condition. The Government and its Agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within European Sites at favourable conservationcondition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.
Favourable conservation status of a habitat is achieved when:

- Its natural range, and the area it convers within that range, are stable or increasing
- The specific structure and functions which are necessary for its long-term maintenanceexist and are likely to continue to exist for the foreseeable future.
- The conservation status of its typical species is favourable

Favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itselfon a long-term basis as a viable component of its natural habitats, and
- The natural range of the species is neither being reduced nor is likely to be reduced forthe foreseeable future, and
- There is, and will probably continue to be, a sufficiently large habitat to maintain itspopulations on a long-term basis.

4.4 Identification of European Sites (SACs and SPAs) within the zone of influence of theUnit

The principal trigger for an Appropriate Assessment would be if the Poultry Units were likely to have significant effects on a NATURA 2000 Site which include Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Current Guidance documents advise that when determining the NATURA sites which are within the zone of influence of the project, a 15km radius should be utilised. Therefore, the screening process for this Appropriate Assessment has been carried out not only on those European Sites in the vicinity but also those within 15km of the Poultry Units.

The European Sites within 15km of the Poultry Units include: (see table 3)

Designated Site details:

Search Radius 15 km RUN RECEPTOR SEARCH

No. of Designated Sites 7 found VERIFY RECEPTOR LOCATIONS

Site No.	Name	Distance(km)	Designation	Country	Easting	Northing
1	Askeaton Fen Complex SAC	2.782	SAC	Ireland	137780	145861
2	Curraghchase Woods SAC	3.278	SAC	Ireland	141161	147971
3	Lower River Shannon SAC	5.815	SAC	Ireland	145837	146720
4	River Shannon and River Fergus Estuaries SPA	8.829	SPA	Ireland	133861	150784
5	Barrigone SAC	11.396	SAC	Ireland	130092	149760
6	Tory Hill SAC	12.683	SAC	Ireland	152844	142614
7	Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA	14.277	SPA	Ireland	126257	142508

Table 3: *Nearest Natura 2000 Site Receptors*

4.4.1 Brief Description of the European Sites Identified and Qualifying Interests

Site Name & Code	Distance from Existing Development	Qualifying Interests
Askeaton Fen Complex SAC **Site code** 002279	2.782 km	Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]

		Alkaline fens [7230]
Curraghchase Woods SAC **Site code** 000174	3.278 km	*Qualifying Interests* Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Taxus baccata woods of the British Isles [91J0] Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016] Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]
Lower River Shannon SAC **Site code** 002165	5.815 km	Sandbanks which are slightly covered by sea water all the time [1110] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310]

		Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [1106] Tursiops truncatus (Common Bottlenose Dolphin) [1349] Lutra lutra (Otter) [1355]
River Shannon & River Fergus Estuaries SPA **Site code** 004077	8.829 km	Qualifying Interests Cormorant (Phalacrocorax carbo) [A017] Whooper Swan (Cygnus cygnus) [A038] Light-bellied Brent Goose (Branta bernicla hrota) [A046]

		Shelduck (Tadorna tadorna) [A048] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054] Shoveler (Anas clypeata) [A056] Scaup (Aythya marila) [A062] Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Knot (Calidris canutus) [A143] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Greenshank (Tringa nebularia) [A164] Black-headed Gull (Chroicocephalus ridibundus) [A179] Wetland and Waterbirds [A999]
Barrigone SAC	11.396 km	*Qualifying Interests*

Site code 000432		Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Limestone pavements [8240] Euphydryas aurinia (Marsh Fritillary) [1065]
Tory Hill SAC **Site code** 000439	12.683 km	**Qualifying Interests** Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Alkaline fens [7230]
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA **Site code** 004161	14.277 km	Hen Harrier (Circus cyaneus) [A082]

Table 4 – *Natura 2000 Sites within 15km of the Existing Site*

4.5 Stage 1 – Initial Screening Conclusions

The 15km influence zone around the Poultry Units and its relationship with the 7 no named European Sites are shown in the following map, ***Figure 1***. Initial screening of the 7 No. Natura 2000 Sites is provided in Table 5.

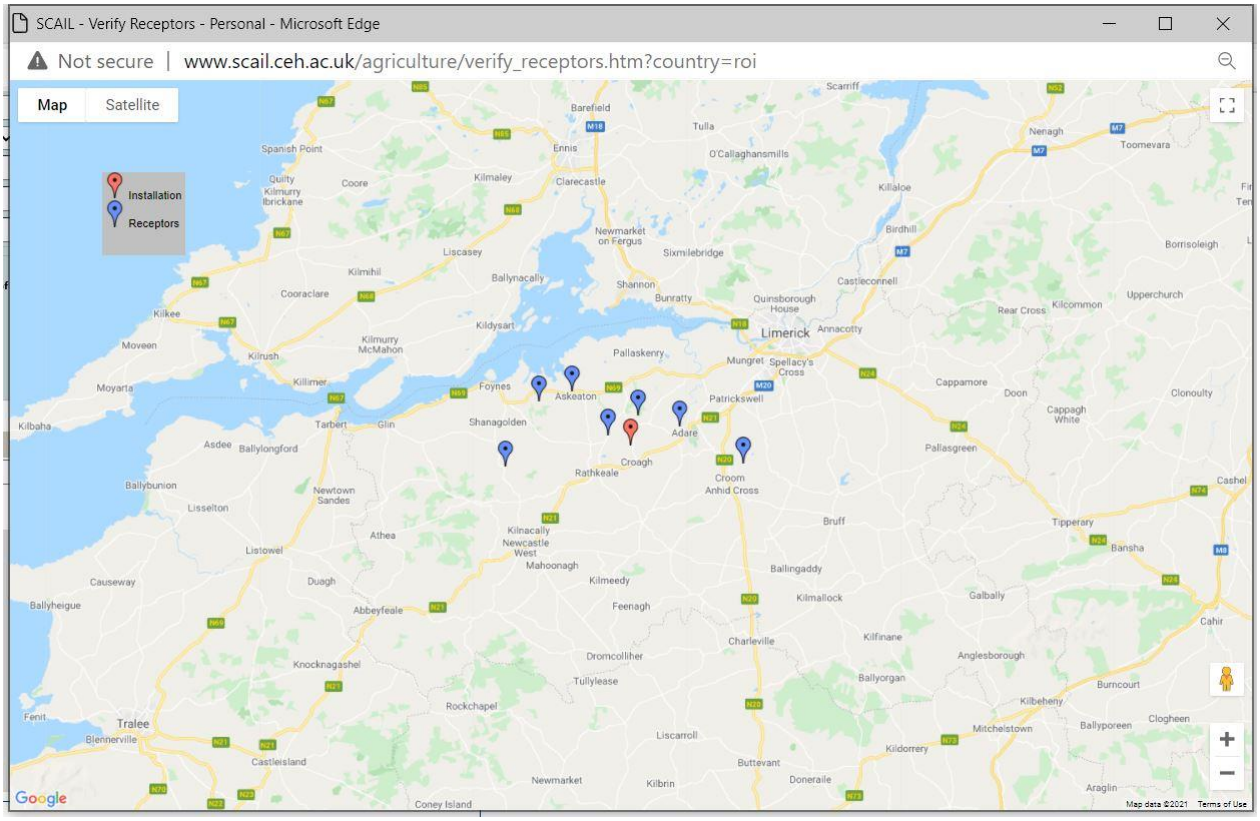


Figure 1: Identified Natura Sites within 15km radius

The initial screening of the European Sites occurring in the wider vicinity of the project site has identified 7 No. European Sites as listed in Table 3.

4.6 Screening of likely significant effects to the Identified Natura 2000 sites.

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 Natural Heritage Site.
The element of the project that have the potential to result in airborne emissions to the Curraghchase Woods environment represent the source of impacts to the Curraghchase Woods SAC. These elements include: • the rearing of Free-Range Poultry The risks these elements pose to the conservation status of the qualifying features of interest relate to the emission of nitrogen, associated with poultry and their manure. There is one emission pathway that could link this element of the project siteto the environment of the Curraghchase Woods SAC. This is an aerial pathway.
There are other agricultural activities ongoing close to the current application site. Therefore, cumulative impacts arising from the operation of these farms together were considered. All farms, regardless of whether licensed by the EPA or not, are required to operate within the legislation defined in S.I. 605 of 2017 (as amended)

regarding manure storage, minimisation of soiled water and general good agricultural practice etc. Therefore, cumulative impacts arising from the combined operation of these activities with the existing operation of the poultry farm at Knockdromin will be negligible.

The use of the poultry manure produced at the existing facility in the composting industry has also been considered as part of this process. Records for the distribution and movement of all the manure produced will be kept on site and presented to the Department of Agriculture, Food and Marine if necessary. All organic fertilisers will be used in Greengas Ad Plant, therefore, there will be no overall increase in the amount of nutrients spread.

All soiled water from this development will be spread on the applicant's landholdings, done in accordance with S.I. 605 of 2017 (as amended). This will minimise run-off from land into local watercourses.

All farmers that receive the soiled water from the existing farm will do so under the European Union (Good Agricultural Practice for the Protection of Waters) Regulations 2014 (S.I. 605 of 2017 (as amended)). Upon the receipt of the manure, they will be informed of their obligation under this legislation. Compliance with these regulations will minimise cumulative impacts as well as any impacts upon water quality.

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 Natura 2000 sites identified, then the likelihood of any direct, indirect, or cumulative impacts upon this designated site is 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. There will be no loss of any undesignated priority habitats.

Distance from Natura 2000 site or key features of the site: The closest Natura 2000 Site to the application site is the Askeaton Fen Complex SAC and this is 2.782 km to the South West. Curraghchase Woods SAC lies c. 3.278 NbE of the Proposed development site.

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 designated site.

Emissions:

Construction Phase:

Construction Activities pose a risk to watercourses. The main sources of contamination from construction activities include silt and other polluting substances such as hydrocarbons and cementitious materials associated with construction activity. All waste water will be collected in underground tanks via silt traps for reuse during this period.

Operational Phase:

There will be no impacts on any designated site arising from emissions to surface water features of the designated sites. All waters generated onsite will be collected for spreading on surrounding family landholdings. Any associated land-spreading of the

soiled water from this development will be done in accordance with S.I. 605 of 2017 (as amended). This will minimise run-off from land into local watercourses.

On-site during Construction
Construction activities have the potential to generate dust emissions. The potential for dust to be emitted depends on the type of construction activity being carried out in conjunction with ambient conditions including rainfall, wind speed and wind direction. The potential impact from dust depends on the distance to the potentially sensitive locations and whether the wind can carry the dust to these locations. Most of the dust would be deposited close to the potential source and any impacts from dust deposition would typically be several hundred metres or so of the construction area.

On-site and off-site during Operation
The Poultry Unit is located in an agricultural area where typical levels of farm related odours and dust are to be found and expected. These odours and dust arise from farmyards and lands during the day-to-day operations such as feeding, deliveries/collections, manure agitation and manure spreading.

Nutrient Emissions to Air
The poultry livestock and the associated manure on site will have the potential to result in the emission of nutrients, in the form of ammonia and other nitrogen species to air. As such the project has the potential to result in the aerial deposition of nutrients, derived from the project operations, to the environment of the Curraghchase Woods SAC. Excessive deposition of Nitrogen may cause respiratory problems in animals and can cause the acidification of soils when deposited.

Noise Emissions
Noise related issues as a result of activities at the Poultry Unit will be limited to those arising from the operation of the ventilation system, deliveries to and collections from the unit, the removal of litter and the noise generated by the birds.

Visual Impacts
The existing Poultry Units is located in a topographical depression. Buildings have a minimal ridge height with walls that are finished to blend in with the surroundings. The highest structure on site is the feed storage silo which stands at 12 - 15m high.

In order to predict atmospheric emissions (ammonia and nitrogen) from this development of this facility, a SCAIL model (Simple Calculation of Atmospheric Impact Limits) (Appendix 1) was run by QFT Ireland EHS Consultants to determine the potential impacts on the Natura 2000 sites identified. In this instance a number of factors were taken into account, such as the use of natural ventilation. Using these parameters, it was determined that:

There are no exceedance on the upper level limit on any of the Natura 2000 sites identified from the existing development based on the parameters used. The lower level of impact for compounds measured showed a level of exceedance for 6 No. of the Natura 2000 sites identified.

For the ***Askeaton Fen Complex,*** the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.04042 µg/m3. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.10 %. These additional loads can therefore be considered as de-minimus.

For the ***Curraghchase Woods SAC***, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.0319 µg/**m3**. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.13 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the SAC will be 0.24 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 18.23 %. These additional loads can therefore be considered as major.

The process contribution for Acid Deposition at the edge of the SAC will be 0.016 kEq

H+/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 2.73 %. These additional loads can therefore be considered as de-minimus.

For the ***Lower River Shannon***, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.01234 µg/**m3**. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.16 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the SAC will be 0.06 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 5.38%. These additional loads can therefore be considered as minor.

For the ***River Shannon and River Fergus Estuaries SPA***, the process contribution for Ammonia (NH3) at the edge of the SPA will be 0.00626 µg/**m3**. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.03 %. These additional loads can therefore be considered as de-minimus.

For the ***Barrigone SAC***, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.00413 µg/**m3**. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.00 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the NHA will be 0.02 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 8.31 %. These additional loads can therefore be considered as minor.

The process contribution for Acid Deposition at the edge of the SAC will be 0.001 kEq H+/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 1.39 %. These additional loads can therefore be considered as de-minimus.

For the **Tory Hill SAC**, the process contribution for Ammonia (NH3) at the edge of the SAC will be 0.00347 µg/**m3**. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 0.23 %. These additional loads can therefore be considered as de-minimus.

The process contribution for nitrogen at the edge of the SAC will be 0.02 kg N/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 1.57 %. These additional loads can therefore be considered as de-minimus.

The process contribution for Acid Deposition at the edge of the SAC will be 0.001 kEq H+/ha/yr. The percentage of the Environmental Load / Level that is accounted for by the process contribution alone of the existing development is 1.37 %. These additional loads can therefore be considered as de-minimus.

For the ***Stacks to the Mullaghareirk Mountains*** the operations of the proposed development will have no impacts upon the Natura 2000 site identified.

Excavation requirements: The project will involve the removal of topsoil and subsoil for the construction of theunderground storage tank. It is expected that all the excavated topsoil and subsoil will be used in landscaping throughout the site.

Transportation requirements
The traffic on the access route servicing the poultry farm, is mainly domestic and agricultural i.e. livestock lorries, silage, and harvesting machinery.

In-Combination / Cumulative Impacts: the existing application was considered in combination with other developments or existing developments in the Knockdromin area and the surrounding townlands. One commercial development (on an adjacent same site) has been granted planning permission in the preceding years i.e., The construction of a poultry house and all associated site works. Planning Ref: 16/515. Any future individual application that has the potential to impact upon a Natura 2000 site will be subject to Appropriate Assessment as required under Articles 6(3) of the Habitats Directive.

Transportation requirements:

Duration of construction, operation, decommissioning etc: N/A

Describe any likely changes to the nearby Natura 2000 sites arising as a result of:

Reduction of Habitat area: The existing development lies outside the boundaries of the Natura 2000 sites identified in Section 3.3. There will be no reduction of designated habitat area. Only areas of intensively managed grassland will be lost due to the construction of the existing development. This has little ecological value. There will be no interference with the boundaries of any designated sites.

Disturbance to key species: Nitrogen emissions have the potential to cause respiratory problems in animals

Habitat or species fragmentation: There will be no habitat or species fragmentation within any SPA, SAC or NHA. No ecological corridors between the existing site and any designated area will be damaged or destroyed.

Reduction in species density: Nitrogen emissions have the potential to cause reduction in species density.

Changes in key indicators of conservation value (water quality etc.): There will be no negative impacts upon water quality in any designated site.

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 considered likely that there will be no significant adverse 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.):** Likely

3.5 FINDING OF NO SIGNIFICANT EFFECTS

Findings of No Significant Effects Report Matrix	
Name of project	Existing Poultry Farm at Knockdromin, Croagh, Co. Limerick.
Name and location of Natura 2000 site	The closest Natura 2000 site to the application is the Askeaton Fen SAC and this is 2.782 km to the South West of the application site. Curraghchase Woods SAC lies c. 3.278 NbE of the Proposed development site.
Description of project	An Agricultural Development
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 accessed could affect this site	All farmland surrounding this existing development must operate within the requirements of S.I. 605 of 2017 (as amended). Compliance with this legislation will minimise any in-combination effects
The Assessment of Significance of Effects	
Describe how the project is likely to affect the Natura 2000 sites	Potential impacts likely
Explain why these effects are not considered significant	given the distance of the existing project from the identified Natura 2000 sites and the prevailing winds, it will not have a significant effect on the conservation objectives or integrity of these sites
Describe how the project is likely to affect species designated under Annex II of the Habitats Directive	Nitrogen may cause respiratory problems in animals and can cause the acidification of soils when deposited.
Data Collected to Carry out the Assessment.	
Who carried out the assessment	Keith Massey BSc (Hons) SIIRSM EHS Consultant
Sources of data	NPWS, EPA, National Biodiversity Data Centre, Limerick City and County Council, Woodland trust.
Level of assessment completed	Stage 1 Appropriate Assessment Screening
Where can the full results of the assessment be accessed and viewed	Full results included

Table 5*: Results of Screening Report*

4 APPROPRIATE ASSESSMENT CONCLUSIONS

The emissions of Nitrogen from the existing development exceed the Lower limit of 1 No. of Natura 2000

sites, i.e. Curraghchase Woods SAC (worst case scenario) by 18.23%. It can be concluded objectively that this existing development has the potential to adversely affect the conservation objectives or integrity of this site, and the habitats and species associated with this site may be adversely affected, and as such an appropriate assessment of this development is necessary.

A Stage 2 Appropriate Assessment is required to assess in further detail the potential negative effects of emissions to the Curraghchase Woods SAC and to evaluate available measures toavoid and/or mitigate the potential for such effects.

The elements of the project that could result in disturbances are the:

- Emissions to air from the rearing of poultry livestock on the farm.
  Also:
- The construction of new farm infrastructure
- The rearing of poultry livestock on the farm
- The storage of soiled water on the farm; and
- The landspreading of soiled water on the farm and surrounding landholdings.

Stage Two – Appropriate Assessment

Stage 2 of the Guidance Document for the preparation of Appropriate Assessment Reportsrequires:

- A description of the conservation objectives of the European Sites
- A summary of the features of the European Sites located within the 15km zone ofinfluence
- A descriptions of likely impacts that could impinge these features of the EuropeanSites
- A description of mitigation measures currently in place and to be put in place toprevent any potential impacts
- Conclusions and Recommendations

5.2 Conservation objectives of the Curraghchase Woods SAC

Favourable conservation status of a habitat is achieved when:
• its natural range, and area it covers within that range, are stable or increasing, and
• 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, and
• the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:
• 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, and
• the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
• there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

In this regard, the main aim of the Curraghchase Woods SAC is to maintain and where necessary,restore the conservation conditions of the following Annex I habitat(s) and the Annex II species:

Tables 9: Annex I habitat(s) and the Annex II species

Code	Description
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)
91J0	Taxus baccata woods of the British Isles
1016	Vertigo moulinsiana (Desmoulin's Whorl Snail)
1303	Rhinolophus hipposideros (Lesser Horseshoe Bat)

5.3 Summary of the features of the European Site located within the 15km Zone of Influence.

As per the Initial Screening carried out in Stage 1 of this Report, the following Qualifying Features of the Curraghchase Woods SAC are considered to be within the 15km Zone of Influence:

- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]
- Taxus baccata woods of the British Isles [91J0]
- Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]
- Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]

5.4 Description of likely impacts that could impinge features of the Curraghchase Woods SAC

The existing Poultry Units and the proposed development (Planning Ref 20/1138) has the potentialto cause impacts to the qualifying habitats and species of the Curraghchase Woods SAC as a result of Nitrogen emissions to air. The qualifying feature of interest of the Curraghchase Woods SAC whose conservation status could be negatively effected by such emissions are:

- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]
- Taxus baccata woods of the British Isles [91J0]
- Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]
- Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]

Construction Phase Emissions

There will be zero surface water / airborne emissions from the construction phase which are likely to impact on any of the identified Natura 2000 sites.

Operational Phase Emissions

The potential operation phase emissions of the project relate to the release of airborne Nitrogen to the Curraghchase Woods SAC. Nitrogen may cause respiratory problems in animals and can cause the acidification of soils when deposited.

Increases in nutrient loading within the Curraghchase Woods SAC upwind of the projects will have the potential to impact vegetation and tall herb fringe communities through changes in the habitat's plant community and the succession of nutrient-loving flora. Such changes in habitat structure resulting from nutrient inputs will have an associated effect on the function of the habitat and its capacity to support a diverse faunal community.

Aerial Pathways

Air emissions derived from poultry livestock will have the potential to result in the deposition of elevated nutrients to the Curraghchase Woods SAC during periods of precipitation.

An analysis of the potential for the project to result in the release of nutrients to air and subsequent deposition within the Curraghchase Woods SAC has been undertaken using the SCAIL Model for screening the potential for air emissions from agricultural facilities.

A summary of the results of the SCAIL screening is provided in ***Table 5****: Results of Screening Report*

While the SCAIL Screening resulted in potential exceedances in nitrogen deposition, based on the numbers of livestock to be held on the project site, it is considered that these results are representative of a worst case scenario and are not likely to arise due to the fact that the SCAIL Model does not account for all variables. In respect of this the following must be considered:

- The maximum average annual stocking levels on the farm when fully constructed will operate between 90-95% of stocking capacity.
- All litter produced on this facility, will be cleaned out and removed from site on the same day. No litter will be stored onsite.
- The facility is operated to the highest standard of husbandry from a cleanliness and tidiness perspective.
- This facility has employed a high standard of dietary management to ensure minimisation of emissions.
- A dry feed system is operated on site to minimise litter and emission production.

In light of the above it is considered that the overall emissions of nitrogen will be significantly less than that indicated by the SCAIL model. Notwithstanding this, a precautionary approach to the project will be taken

and further mitigation measures are provided in this NIS to ensure that the project does not result in nutrient emissions to air that could negatively affect the status of dependent habitats or species.

5.5 Mitigation Measures

In order to ensure that the unit does not impact the habitat and soil quality of the Curraghchase Woods, the following measures are implemented:

Minimisation of Aerial Emissions

In order to minimise, to a non-significant risk level, the emission of nutrients to air and subsequent deposition on environmental dependent qualifying feature of interest the measures will be implemented to reduce at source the capacity for the project to generate such emissions.

Mitigation measures in the form of trees planted in the pasture area have shown to extremely effective in reducing emissions from poultry operations. Tree belts as narrow as 10m have been shown to reduce ammonia in emissions by about 53% and dust by 56%. However, belts of 15-20m provide a more effective barrier, with layers of scrubs and taller trees. Studies for wider belts suggest ammonia capture of 67%[1].

Reference

[1] role-of-trees-in-poultry-farming.pdf (woodlandtrust.org.uk)

These measures will include the implementation of the following farm managementpractices:

- Planting of native trees 10m depth ***Figure 3****: Tree Planting Location* which will reduce air emissions by up to 53% thus reducing the potential threat to all Natura 2000 sites identified to a negligible level.
- The maximum average annual stocking levels on the farm when fully constructed will operate between 90-95% of stocking capacity.
- All soiled water produced on this facility, will be stored in storage tanks adjacent to the poultry house. Levels will be monitored in accordance with regulations, and recovered as fertilizer on agricultural land, throughout the application period, to minimise storage volumes maintained on site.
- A maintenance programme will be operated for the ventilation system in the poultry house on site, and a register maintained of same.
- The facility will continue to be operated to the highest standard of husbandry from a cleanliness and tidiness perspective.
- This facility will further develop the dietary management in association with a nutritionist toaffect minimisation of emissions.
- A dry feed system is operated on site to minimise slurry and emission production.

Environmental Management Programme

Michael Hanley will implement and maintain a comprehensive monitoring programme onsite to provide maximum protection for the environment. This plan will involve maintaining an organic fertiliser register and visual inspection of all stormwater outlets and leak detection monitoring points.

Monitoring

Monitoring will be carried out as part of the environmental management programme.

- Clean roof water and surface water from the Unit is collected via the clean stormwater collection system via monitoring point. This will be visually inspected weekly to ensure the integrity of the system. All soiled water is diverted to the underground storage tanks.
- Regular inspections of the leak detection pipe work system under new tanks.
- Monitoring and analysis of groundwater for elevated trigger elements which would indicate the presence of manure.
- Tank Integrity Testing is carried out when houses are destocked and deemed safe to inspect.

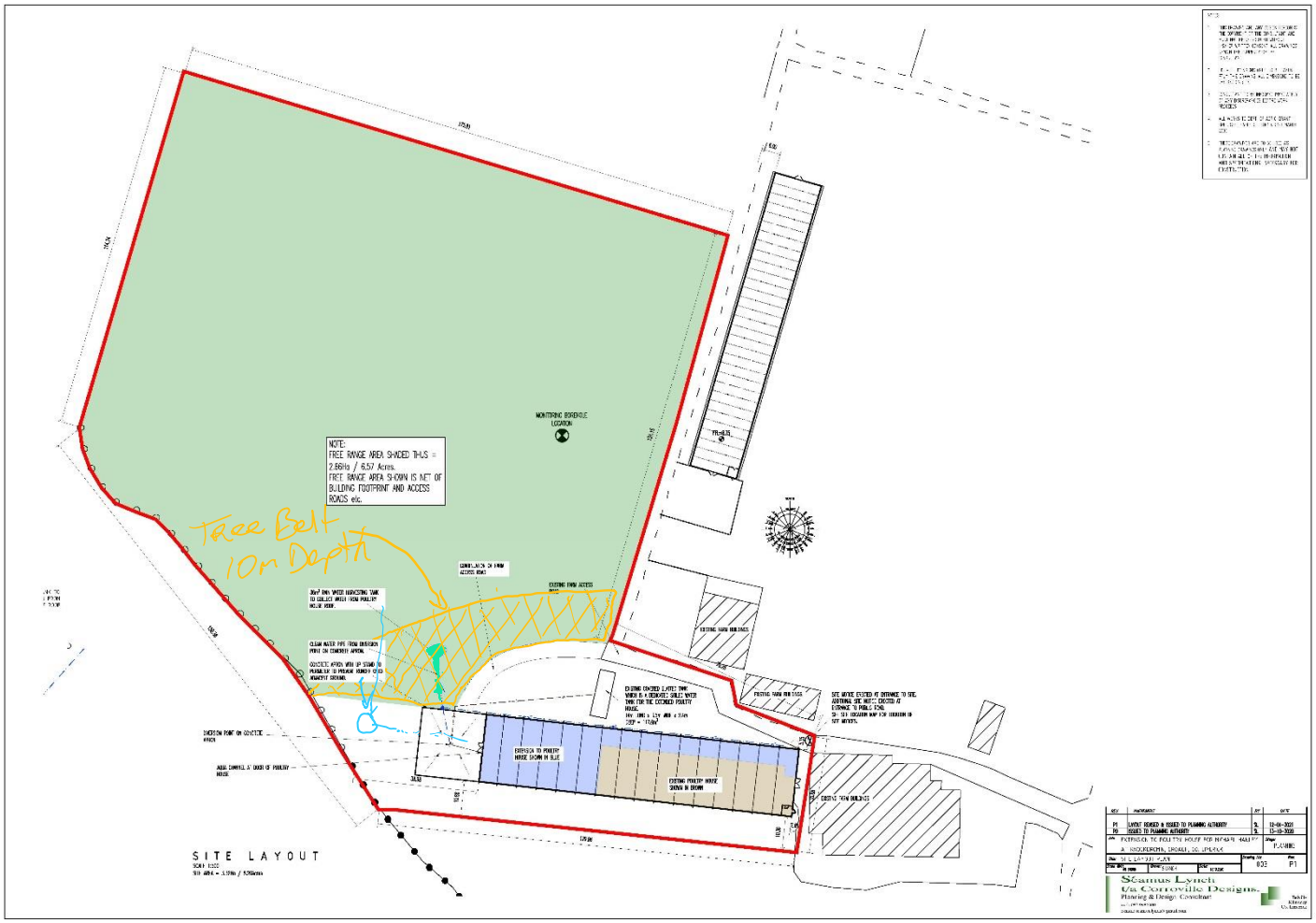


Figure 3: *Tree Planting Location*

Evaluation of Mitigation Measures

Evaluation of Mitigation Measures to Avoid Adverse Impacts as a Result Accidental Emissions of Stored Soiled Water

All water tanks will be constructed to approved standards and meet the requirements of the S.I. No.605 of 2017. Integrity tests of all manure tanks will regularly be undertaken. The installation of impermeable concrete apron bunds around abstraction points will provide containment in the event of an accidental spillage during the transport of manure. It is predicted that these measures will be sufficient to ensure adverse effects to water quality are avoided and likely significant effects to the Curraghchase Woods SAC do not arise as a result of this element of the project.

Evaluation of Mitigation Measures to Avoid Adverse Impacts as a Result of Nutrient Release to Air

A key measure in ensuring nutrient emissions to air are minimised by the project is the planting of tree coverage in the pasture area of the poultry unit. Tree belts as narrow as 10m have been shown to reduce ammonia in emissions by about 53% and dust by 56%. However, belts of 15-20m provide a more effective barrier, with layers of scrubs and taller trees. Studies for wider belts suggest ammonia capture of 67%'.

The SCAIL model predicted a worst-case scenario of a 18.23% deposition of Nitrogen on the Curraghchase Woods SAC. A 50% reduction in this worst-case scenario would reduce this risk to acceptable level whereby the proposed development would no longer pose a risk to any of the 7 No. identified Natura 2000 sites within a 15km radius of the development.

Conclusions

This Natura Impact Statement details the Screening of a Poultry Units at Knockdromin, Croagh, Co. Limerick in relation to its proximity and potential impacts on European Sites as a result of day-to-day operations.

Poultry litter can cause adverse impact to the quality of water and surrounding habitats if discharged to air or surface waters. There is also the potential of pollution to the underlying aquifer primarily from accidental spillages and/or leaks from on-site storage tanks.

A range of environmental safeguards and site management measures have been outlined to ensure that adverse effects to the Curraghchase Woods SAC do not occur. It is concluded that, with the implementation of the mitigation measures and the guidelines outlined in Section 5.4 above there will be no significant impacts on the special conservation interests of any of the Natura 2000 sites identified including Curraghchase Woods SAC.

Keith Massey BSc (Hons) SIIRSM
EHS Consultant
QFT Ireland EHS Consultants
14/04/2021

Appendix No. 18 – European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2017 – S.I. 605 of 2017

S.I. No. 605/2017 - European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017

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S.I. No. 605 of 2017

EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2017

Notice of the making of this Statutory Instrument was published in

"Iris Oifigiúil" of 2*nd January*, 2018.

I, EOGHAN MURPHY, Minister for Housing, Planning 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[1] , Directive 2000/60/EC of 23 October 2000[2] , Directive 2003/35/EC of 26 May 2003[3] , Directive 2006/11/EC of 15 February 2006[4] , Directive 2006/118/EC of 12 December 2006[5] and Directive 2008/98/EC of 19 November 2008[6] 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 2017.

(*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.

(*d*) These Regulations shall come into effect on 1 January 2018.

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 provides a basic level of protection against possible adverse impacts to waters arising from the agricultural expansion targets set under Food Harvest 2020.

Revocations

3. The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 and the European Union (Good Agricultural Practice for Protection of Waters) (Amendment) (No. 2) Regulations 2014 are hereby revoked.

Interpretation

4. (1) In these Regulations, save where the context otherwise requires—

"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 Housing, Planning 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 Minister for Agriculture, Food and the Marine for this purpose;

"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, silage pits or silage clamps 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, silage pits or silage clamps 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 dungsteads, farmyard manure pits, silage pits or silage clamps 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 dungsteads, farmyard manure pits, silage pits or silage clamps 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.

(5) The occupier of a holding shall only be eligible to avail of a derogation from the limits on the amount of livestock manure to be applied as specified in Article 20 if the capacity of storage facilities for livestock manure, effluent and soiled water on the holding is in accordance with Articles 8 and 9.

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 live-stock 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 live-stock 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) For the purposes of the determination of the grassland stocking rate in tables 12, 13A and 13B the previous calendar year's stocking rate data shall be used.

(3)(*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 four years or more has elapsed after the taking of a soil test, 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.

(*d*) An occupier of a holding located in an area where soils have an organic matter content of 20% and above, as defined on the Teagasc-EPA Indicative Soils map, shall ensure that the soil test undertaken includes organic matter determination. The phosphorus fertilisation rate for soils with more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils. Soil organic matter determination shall not be required where it is certified by a Farm Advisory System Advisor that soils on a holding/field in such areas are mineral soils.

(4) Without prejudice to the generality of sub-article (1) and subject to sub-article (5), the amount of available nitrogen or available phosphorus applied to promote the growth of a crop specified in Table 12, 13A, 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.

(5) Increased phosphorus build-up on grassland on farms with grassland stocking rates of 130kg nitrogen per hectare and above shall only be permitted in accordance with the rates contained in Table 13B provided that the following conditions are met:

(*a*) Soil analysis is carried out for soil phosphorus and soil organic matter contents; soil organic matter testing shall not be required where it is certified by a Farm Advisory System Advisor that all soils on a holding are mineral soils.

(*b*) An occupier availing of the phosphorus build-up programme shall engage the services of a Department of Agriculture, Food and the Marine approved Farm Advisory System Advisor.

(*c*) A detailed farm nutrient plan for the holding shall be submitted in a format specified by the Minister for Agriculture, Food and the Marine.

(*d*) The occupier shall participate in an appropriate training programme specified by the Minister for Agriculture, Food and the Marine for the purpose of meeting the requirements of these regulations.

(6) 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.

(7) The nitrogen and phosphorus maximum limits in Tables 12, 13A and 13B are in addition to the nitrogen and phosphorus contained in grazing livestock manure produced on 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 100m3 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 10m3 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 or a turlough likely to flood,

(*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, bore-hole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10m3 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 or Irish Water (as the case may be) 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, in consultation with Irish Water, where relevant, 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, following consultation with Irish Water, where relevant, 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 and, where relevant, Irish Water, specify a greater distance to that specified in sub-articles (2) or (3) where, following prior investigations by Irish Water or the local authority (as the case may be), the local 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, following prior investigations by Irish Water or the local authority (as the case may be) and following consultation with the Agency and, where relevant, Irish Water, 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 10m3 or more of water per day, or serving 50 or more persons, within a timeframe to be agreed with the Agency and, where relevant, Irish Water, where—

(*a*) on the basis of the results of monitoring carried out for the purposes of Article 7 of the European Communities (Drinking Water) Regulations (S.I. No. 122 of 2014), 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 following consultation with the Agency and, where relevant, Irish Water, 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 sub-stances 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 Agency may issue advice and/or direction to Irish Water or 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 Irish Water or a local authority (as the case may be) shall comply with any such advice or direction given.

(12) 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.

(13) 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 10m3 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 or a turlough likely to flood,

(*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*)).

(14) Farmyard manure shall not be held in a field at any time during the periods specified in Schedule 4 as applicable to that substance.

(15) Silage bales shall not be stored outside of farmyards within 20m of surface waters or a drinking water abstraction point in the absence of adequate facilities for the collection and storage of any effluent arising.

(16) No cultivation shall take place within 2m of a watercourse identified on the modern 1:5,000 scale OSi mapping or better, except in the case of grassland establishment or the sowing of grass crops.

(17) Supplementary feeding points shall not be located within 20m of waters and shall not be located on bare rock.

(18) In the case of holdings with grassland stocking rates of 170kgs nitrogen per hectare from livestock manure or above, bovine livestock shall not be permitted to drink directly from waters from 1 January 2021 onwards. Where bovine livestock have direct access to water from the holding, a fence shall be placed at least 1.5m from the top of the riverbank or water's edge (as the case may be) by 1 January 2021. It will be permissible to move livestock across a watercourse to an isolated land parcel where necessary, provided that both sides of the watercourse are fenced.

(19) In the case of holdings identified in sub-Article 18, supplementary drinking points may not be located within 20m of surface waters from 1 January 2021.

(20) There shall be no direct runoff of soiled water from farm roadways to waters from 1 January 2021. The occupier of a holding shall comply with any specification for farm roadways specified by the Minister for Agriculture, Food and the Marine pursuant to this requirement.

(21) There shall be no direct runoff of soiled waters to waters resulting from the poaching of land on the holding.

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. Where imported livestock manure is to be applied to the land on the holding, calculations shall be based on the previous calendar year's stocking rate.

(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*) When a non-selective herbicide is applied to land after 15 October, 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 his 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, silage pits or silage clamps, including an assessment of compliance with Articles 9 to 14,

(*j*) the quantities and types of concentrated feedstuff fed to grazing live-stock 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 know-ledge 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 and Schedule 5 of these Regulations, excluding Article 17(5), (6), (7), (10) and (11), 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 Minister, the Agency or a local authority.

(4) The Minister for Agriculture, Food and the Marine shall make available to the Minister, 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 make available to the Minister, a local authority and its agents upon written request information in relation to any holding or holdings as the case may be where such transfer of data is necessary for the purposes of promoting compliance with these Regulations.

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 2021 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 other-wise 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 2021 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, the relevant local authorities and Irish Water shall provide the Agency with such information appropriate to his 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, Irish Water 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 follow the protocol as established by the Minister for furnishing a report of an inspection or inspections to the Department of Agriculture, Food and the Marine and such other persons as it considers appropriate for the purposes of these Regulations where non-compliance has been detected.

(6) A local authority shall maintain a register of all prior investigations carried out by the local authority itself or carried out by Irish Water within its jurisdiction, 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 con-tent 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 pig manure, and

(*b*) the excess amount does not exceed the amounts specified in Schedule 2, Table 22 of these Regulations from the prescribed dates.

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 5 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

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 in 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 Housing, Planning and Local Government,

20 December 2017.

EOGHAN MURPHY,

Minister for Housing, Planning and Local Government.

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, 2014.

These Regulations, which give effect to Irelands 4th 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).

1 O.J. No. L 375/1, 31 December 1991.

2 O.J. No. L 327/1, 22 December 2000.

3 O.J. No. L 156/17, 25 June 2003.

4 O.J. No. L 64/52, 4 March 2006.

5 O.J. No. L 372/19, 27 December 2006.

6 O.J. No. L 312/3, 22 November 2008.