Poultry Farm

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

In respect of a proposed development involving the construction of 1 no. poultry house including all ancillary facilities at:

LISGAR AND CORGLASS,
BAILIEBORO,
CO. CAVAN.

On behalf of:

MORGAN AND
KENNETH HALL.,
DRUMEAGUE,
BAILIEBORO,
CO. CAVAN.

MARCH 2021

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CONTENTS

Appendices

A. NON-TECHNICAL SUMMARY

This Environmental Impact Assessment Report (E.I.A.R.) has been prepared by C.L.W. Environmental Planners Ltd. on behalf of Morgan and Kenneth Hall, Drumeague, Bailieboro, Co. Cavan in respect of the proposal to construct 1 No. poultry house together with all ancillary structures and ancillary site works on, and or, adjacent to a previously approved poultry house / poultry farm site at Lisgar and Corglass, Bailieboro, Co. Cavan. The E.I.A.R. has been prepared by Mr. Paraic Fay B.Agr.Sc, and Mr. Oliver Leddy B.Agr.Sc. of C.L.W. Environmental Planners Ltd. with the assistance of persons and bodies referred to hereafter. The farm will operate under Licence and this licence will be progressed upon receipt of planning permission.

The proposed development is to be completed on / adjacent to a previously approved poultry farm site at Liagar and Corglass, Bailieboro, Co. Cavan, (currently in construction). The E.I.A.R. has been prepared after an Environmental Impact Assessment (E.I.A.) of the proposed development carried out by C.L.W. Environmental Planners Ltd., in accordance with the Planning and Development Act 2000 (as amended), Planning & Development Regulations 2001, as amended, and the Protection of Environment Act 2003.

The previously approved poultry house (currently in construction) was granted permission in 2020. The proposed development will utilise an existing access route currently used to access the existing farm. The poultry farm (as currently approved) has capacity for c. <40,000 birds and is to operate as a free range poultry farm, below the E.P.A. Licence threshold of 40,000 places.

The proposed development of 1 No. poultry house will be completed adjacent to the previously approved house. The proposed development will be sufficiently set back from the adjoining public road so as to minimise any potential visual impact from same and will integrate with the approved development and local landscape. The capacity of the farm upon completion of all proposed developments will be a maximum stocking rate of 100,000 birds , however same may be restricted to less than this (c. 85,000 birds when operating in a free range farming system). Alternatively the farm may operated in a traditional (non free range) manner up to 100,000 places.

While the approved development is currently approved as a free range enterprise, the applicant at this juncture wants to allow for the operation of all/part of this farm as a traditional broiler farm, and hence the maximum stocking rate, upon completion of the currently proposed developments, applicable under free range conditions (c. 85,000) will be increased to 100,000 birds. Both stocking models are to be considered in the completion of this E.I.A.R., with the E.I.A.R. completed on the basis of the maximum stocking rate/numbers.

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), Schedule 5 Part 2 1 (e) (i) as follows;

> ***"Installations for intensive rearing of poultry not included in Part 1 of this Schedule which would have more than 40,000 places for poultry."***

All manure is to be moved off-site by a registered contractor in line with S.I. 605 of 2017, as amended. The additional structures and site works required as part of the proposed development may/will include meal storage silo(s), soiled water tank(s), and gas storage tanks etc.

The proposed development will be located in the townland of Liagar and Corglass, Bailieboro adjacent to the approved development, currently in construction. The applicant is experienced in poultry farm management, and in particular the management of an existing poultry farming enterprise located at Drumeague, Bailieboro, Co. Cavan. The operation of the proposed development will be integrated, with the operation of the previously approved farming activities on this site, but independent of those operated at Drumeague, Bailieboro, and will provide for a sustainable development of activities on the farm.

As the applicant is an existing poultry farmer, there are a number of areas where this experience will be an advantage, and where there will be both economies of scale and economies in the operation of the farm. The proposed development will provide significant economies of scale for the applicant, and will increase the scale of this farm, in line with modern production standards and efficiencies, and capable of providing a sustainable farm income for the applicant(s).

The capacity of this farm is and will be in excess of that for which a Licence from the Environmental Protection Agency (E.P.A.) is required, and same will be initiated upon receipt of planning permission. The applicant will ensure that the required licence is in place prior to exceeding the licensable threshold. This E.I.A.R. will be submitted to the EPA as part of the Licence application process.

The application site lies within the Boyne Hydrometric Area and Catchment and the Blackwater (Kells) Sub-Catchment and Sub-Basin. There is a stream flowing along the western boundary of the application site. This stream flows south, entering Castle Lough approximately 500m downstream of the site. The River Blackwater emerges from Castle Lough.

The EPA have defined the ecological status of the watercourses that are close to the application site as being of poor ecological status. The River Blackwater at points upstream and downstream of Castle Lough is of poor status, and it improves to moderate status further downstream. The status of Castle Lough has not been defined. Under the requirements of the Water Framework Directive in Ireland, good status must be achieved in all water bodies within a specified time frame.

The application site is 3.19 hectares and it is located in a rural area within the townland of Lisgar and Corglass. Access to the site will be via the upgrading of an existing access road, the entrance to which will be just off a local, third class road. The site is 3.1km north of Bailieborough.

The land use surrounding the site is predominantly agricultural and the dominant habitat surrounding the site is improved agricultural grassland. The main habitat within the application site currently is improved agricultural grassland, which is poorly drained in parts.

There are also areas of scrub within the site. The boundaries of the site consist of hedgerows, and there is a stream flowing along the western site boundary.

An examination of the website of the National Biodiversity Data Centre revealed that there are records for the presence of six protected mammal species from the relevant one km^2 (N6799) of this proposed development.

These species include:

- Daubenton's Bat *(Myotis daubentonii)*
- Eurasian Red Squirrel *(Sciurus vulgaris)*
- European Otter *(Lutra lutra)*
- Lesser Noctule *(Nyctalus leisleri)*
- Pipistrelle *(Pipistrellus pipistrellus sensu lato)*
- Soprano Pipistrelle *(Pipistrellus pygmaeus)*

A custom polygon generated for the site revealed that these records do not pertain to from within the application site itself.

The proposed finished floor level will be in keeping with the approved house (currently in construction) and the existing ground levels, and integrated with same, so as to ensure that same is integrated into the site and wider landscape, while at the same time minimising excavation/filling and potential visual impact. The location of the proposed development, set back from the public road, integrated with the previously approved structures and integrated into the existing land topography together with the proposed external finishes and existing established landscaping will mean that the development will be well integrated into the site and wider landscape. Notwithstanding that there will be a certain amount of recontouring of the site of the proposed house to integrate with the existing floor level, the maximum elevation of the proposed development will be similar to the previously approved house and integrated into the surrounding landscape.

The site is located c. 16.4 Km from the closest Natura 2000 site – Kilconny Bog SAC.

Hazardous waste generated at this site may be in the form of spent fluorescent lighting tubes. The annual quantity of each of this class of waste generated on the site is and will be mimimal. It is proposed to accumulate the used fluorescent tubes in a storage area on the site pending disposal at the Cavan Co. Co. civic amenity centre. Alternatively these tubes may be returned to the supplier, and/or LED lights may be used in the upgrading of the existing houses.

The proposed poultry house will be similar in design principles to the previously approved house on-site and other free range broiler houses constructed throughout this part of Co. Cavan. The type of house proposed is a simple closed building of concrete/steel/pre-fabricated panel construction, thermally insulated with a forced computer controlled ventilation system and artificial lighting. Walls will be concrete, with a pre-fabricated panel construction and the roof cladding will be box profile juniper green (or similar). The proposed poultry house will be c. 140.201 m long by 23.469 m internally with an overall height of c. 6.5-7 m above floor level. Birds are housed on a solid floor, with litter (wood shavings/chopped straw) spread over the entire floor area.

Only the most efficient systems of poultry husbandry are proposed on this farm and houses (currently proposed and previously approved) will be well maintained and serviced so as to ensure that they are operating to maximum efficiency. 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 houses as this is the most efficient type of drinking system and will ensure that the manure/litter remains as dry as possible.

The production process on this farm will be similar for both the previously approved and the currently proposed house, and will be in line with the requirements of Manor Farm, the Department of Agriculture, Food & Marine and Bord Bia. The applicant is 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 up to c. 8 weeks of age when they are transported to Manor Farm for processing. The existing and proposed developments will operate in an all in - all out basis to maintain a single age profile, and to maintain the health status of the birds, within each house.

The poultry manure from this farm is/will be removed off site by an authorised contractor, McCartney Contractors, on behalf of the applicant. The contractor provides the machinery and labour necessary for cleaning out the houses and is responsible for cleaning of the houses, arranging transport and making arrangements for the receipt of this material. McCartney Contractors 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. 650-750 tonnes / annum (for both the free range or traditional farming systems) an increase of c. 350-450 tonnes from the c. 300 tons/annum proposed to be produced by the previously approved enterprise. Soiled water from the existing, and proposed development where applicable, will be collected in dedicated soiled water collection tank(s), located at the end of the houses. This soiled water will then be applied to farmland, in accordance with S.I. 605 of 2017, as amended.

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 a site of the existing and/or proposed capacity does 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 in every cycle. The production cycle allows for c. 5 flocks/annum (increasing to c. 7 in the traditional farming system).

Well maintained, properly ventilated poultry farms with modern manure removal will minimise any potential adverse odour impact and will minimise odour outside the confines of the site/immediate area. Transient increases in odour emissions may be associated with manure removal from the site.

A small proportion of the 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. College proteins are an authorised contractor who regularly remove these carcasses, and any other such material to an authorised Animal By-Products plant at Nobber, Co. Meath, in compliance with existing requirements.

The potential of the proposed development, either independently and/or when assessed cumulatively with the previously approved development, (which is currently in construction), and/or other developments in the area, for either direct or in-direct, 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 farmland in accordance with S.I. 605 of 2017, as amended.

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.

1. Introduction and Development Context

This Environmental Impact Assessment Report (E.I.A.R.) was compiled following an Environmental Impact Assessment (E.I.A.) of a proposed development on a previously approved poultry farm site, at Liagar and Corglass, Bailieboro, Co. Cavan, to be operated by the applicant, Morgan and Kenneth Hall. The E.I.A.R. is to be submitted to Cavan County Council in support of an application for Planning Permission to construct 1 No. proposed poultry house together with all ancillary structures and associated site works, on / or adjacent to, a previously approved poultry farm site at Liagar and Corglass, Bailieboro, Co. Cavan. Please refer to the site plan contained in Appendix No. 2 and the drawings contained in Appendix No. 3.

EIA requirements derive from Council Directive 85/337/EEC (as amended by Directives 97/11/EC, 2003/35/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.

The E.I.A.R. is drafted with particular regard to the aforementioned directives and Planning and Development Acts 2000 (as amended), the Planning and Development Regulations 2001, as amended, and in particular Article 94 and Schedule 6 of the 2001 Planning and Development Regulations, and the Protection of Environment Act 2003. 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 and to comply with Schedule 5, Part 2, 1 (e) (i) of S.I. 600 of 2001, as amended which specifies a requirement for an E.I.A.R. for poultry units exceeding 40,000 places for poultry.

In addition to the E.I.A. requirements the proposed capacity of this farm will be in excess of that for which a Licence from the Environmental Protection Agency (E.P.A.) is required (i.e. in excess of 40,000 places). This licence application will be completed with the E.P.A. upon receipt of planning permission.

1(1) Description of the Site and the proposed development

- ***1(1)(1) Scale of the proposed developments.***

The proposed development is to be completed on, a previously approved poultry farm site. The currently proposed development is for 1 No. proposed broiler house (in addition to the proposed poultry house previously approved under planning ref: 20/416) together with all ancillary structures and associated site works. The capacity of the farm following completion of the currently proposed developments will be a maximum of c. 100,000 broilers, albeit that same will typically operate at a reduced stocking rate of 85,000 birds to comply with free range stocking densities. The applicant will require a Licence from the E.P.A. to accommodate the proposed developments and increase in scale, and this application will be completed with the E.P.A. upon receipt of planning permission.

The proposed poultry farming activities are the only agricultural activities that will be carried out on this site by the applicant, however the existing bovine farming activities will continue to be carried out on adjoining lands.

The proposed development will operate along similar management principles and production processes to the poultry house previously approved at this site, and the number of other free range broiler houses in this part of Co. Cavan, including those operated at Drumeague, Bailieboro, Co. Cavan.

The proposed development will be carried out, to ensure compliance with the Nitrates directive (Appendix 19), animal welfare legislation, and to ensure that this farm operates at maximum, efficiency, flock performance and environmental standards. This proposed development will be located in the townland of Liagar and Corglass, Bailieboro.

The purpose of the existing/proposed development is for the rearing of birds from day olds to market weight (c. 8 weeks of age in the free range farming system c. 5-6 weeks of age in the traditional farming system). These birds will then be transported to the processor, (Manor Farm) for the production of poultry products for human consumption. The scale of the proposed farm and the licensable activity is average by current industry standards.

The proposed poultry house will have a total internal floor area of c. 3,438m^2 and will be c. 140.201 m long and c.23.38 m wide and c. 6.5-7 m high above floor level. Proposed soiled water collection tank(s) with a c. 140 m^3 capacity will be located on site. Manure will be removed c. 5 -7 times per annum at the end of each batch. This is to be moved off-site by the appointed contractor.

The proposed development will be sympathetic to the surrounding landscape in terms of its design and appearance, and will be similar to the existing building(s) previousy approved at this location and elsewhere in the locality and will not be intrusive in the landscape. The F.F.L.[1] of proposed poultry house will be integrated with the previously approved structures and ground levels resulting in the proposed developments being integrated into the poultry farm site and wider landscape, due to the land topography, thus ensuring that the proposed development will have no adverse visual impact. Notwithstanding that there will be a certain amount of recontouring of the site of the proposed house to integrate with the existing floor level, the maximum elevation of the proposed development will be similar to the approved poultry house and integrated into the landscape. The drawing details with regard to the proposed developments are included in Appendix No. 3.

[1] Finished floor level

1(1)(2) Planning/Licensing History

The subject site is on/adjacent to a previously approved, but yet to be constructed poultry house site, with planning permission having previously been granted at this location for the previously approved poultry house (which is currently in/pending construction), under planning ref: 20/416. Site Location Maps are contained in Appendix No. 1.

An E.P.A. licence application will be submitted to the Agency in respect of this farm and this application will be concluded prior activities on the farm exceeding the licensable threshold of 40,000 birds.

- ***1(1)(3) Site Location.***

The site/existing farm is located in east Co. Cavan, c. 3.1 km north of Bailieborough, and 7.5 km's southwest of Shercock (and Manor Farm where the feed will be supplied from and the produce supplied to), at National Grid Reference E267247 N299970. The site of the proposed development comprises an overall area of c. 3.19 hectares owned by the applicant, with the area dedicated to the free range activity (i.e. 2 poultry houses and associated range area) extending to c. 8.5-9 Ha. The previously approved and currently proposed poultry farming activities are the only agricultural activities to be carried out by the applicant on this site, with the proposed free range poultry enterprise replacing the current bovine farming activities on the additional land/range area identified for the birds.

The activity on the farm is, and will be, poultry farming activity appropriate to the area and consistent with the development plan for Co. Cavan. The existing site accesses onto the local road L3515-0, c. 1.5 km's from the national route, the R178. The existing site, while remotely located is serviced by a good road network, accessed directly from the local road with the Regional Route the R178 (Shercock - Bailieboro) Regional Route c. 1.5 km from the site. This proposed development is to utilise the existing access/egress route. The poultry house for which permission is sought would, by its nature be located adjacent to the previously approved poultry house, and will be similar to other such developments including that operated by the applicant at Drumeague and those operating elsewhere within the county.

The layout of the proposed development is shown on the Site Layout plan included in Appendix 2. The proposed site is compact, and is designed to be safe, secure and efficient in operation. A copy of the site location map (1:10,560 & 1:2,500) is included as Appendix No. 1, and a copy of the site plan included as Appendix No. 2.

The location of proposed poultry house is identified on the location maps (1:2,500) included in Appendix 1, which also indicates the extent of the land owned by the applicant's at this location. The layout of the proposed development is shown on the Site Layout plan included in Appendix 2. The proposed site is compact, and is designed to be safe, secure and efficient in operation. The closest third party dwelling(s) to the approved/proposed developments are located >c.200 m from the site of the currently proposed development.

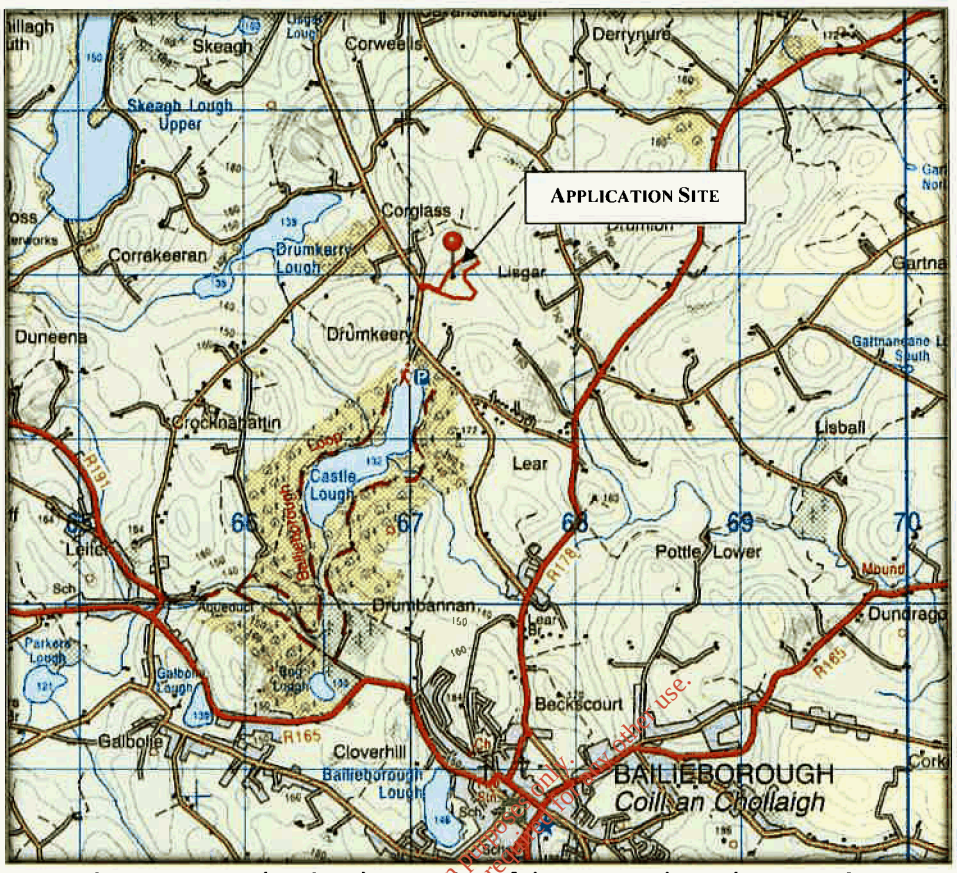


Figure 1 – Map showing the Location of the Proposed Development Site

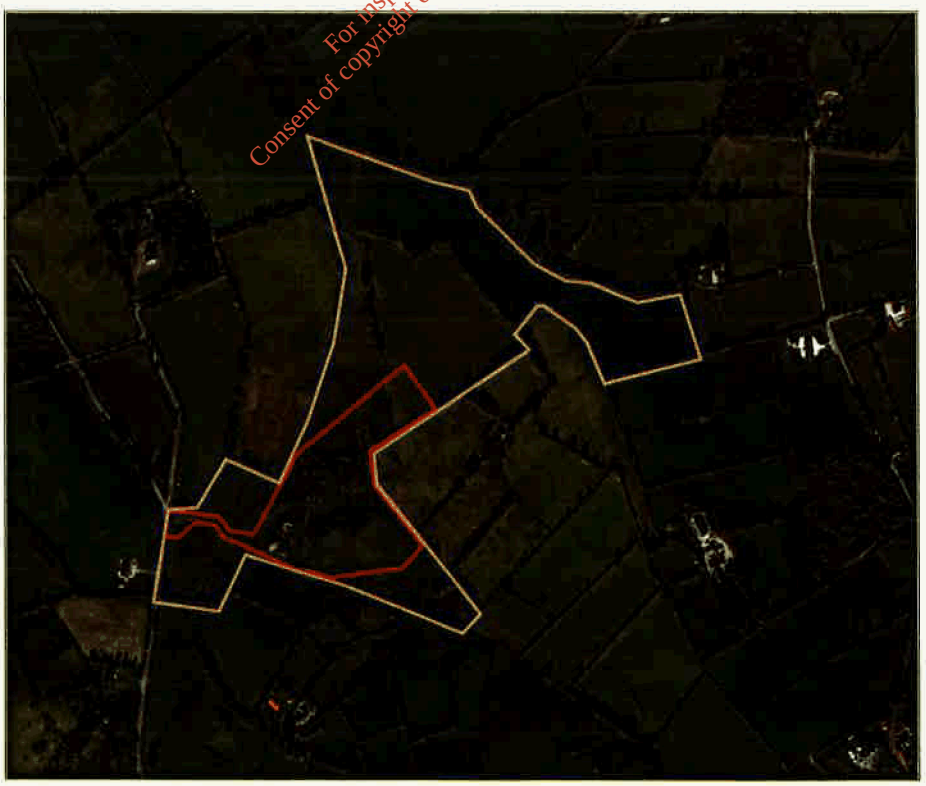


Figure 2 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats. The Available Range Area is Outlined in Yellow, but subject to final agreement with Dept. of Agriculture, Food and The Marine.

- ***1(1)(4) Topography***

The proposed development site is typical of the local Drumlin topography of the area and rises gradually in a west to east direction, but same rises significantly to the rear of the site. The site is located in a relatively level area, requiring a limited level of development works. The previously approved / currently proposed development is well set back from the public road and integrated into the existing land topography.

As can be seen from the plans submitted with this application, and due to the nature of the proposed development the floor level of the proposed development has been set so as to ensure that the development is integrated, in so far as is possible with the previously approved developments and the local land topography and to ensure that there is no adverse visual impact on the surrounding area. This will be complimented by the existing established hedgerows and the proposed finish to the buildings.

Notwithstanding that there will be a certain amount of recontouring of the site of the proposed house to integrate with the existing floor level, the maximum elevation of the proposed development will be similar to that previously approved and well integrated in the landscape.

- ***1(1)(5) Physical description of the proposed development***

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 3 includes detailed drawings of the proposed development.

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

The proposed development of 1 No. poultry house will be of similar design to the previously approved house, and, other existing houses in the area and will also comply with BAT requirements. Birds will be housed on the floor and the house will be open plan with no internal divisions. The roof cladding will be box profile juniper green (or similar) cladding.

The proposed;

- poultry house will be c. 140.201 m long by 23.38 m wide internally with an overall height of c. 6.5-7 m .

While the previously approved and currently proposed houses will be constructed to facilitate their operation as free range broiler houses, they will require no structural modification were the applicant to operate as traditional (or non-free range) broiler houses.

All manure is to be moved off-site by a registered contractor in line with the requirements of S.I.605 of 2017, as amended.

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.

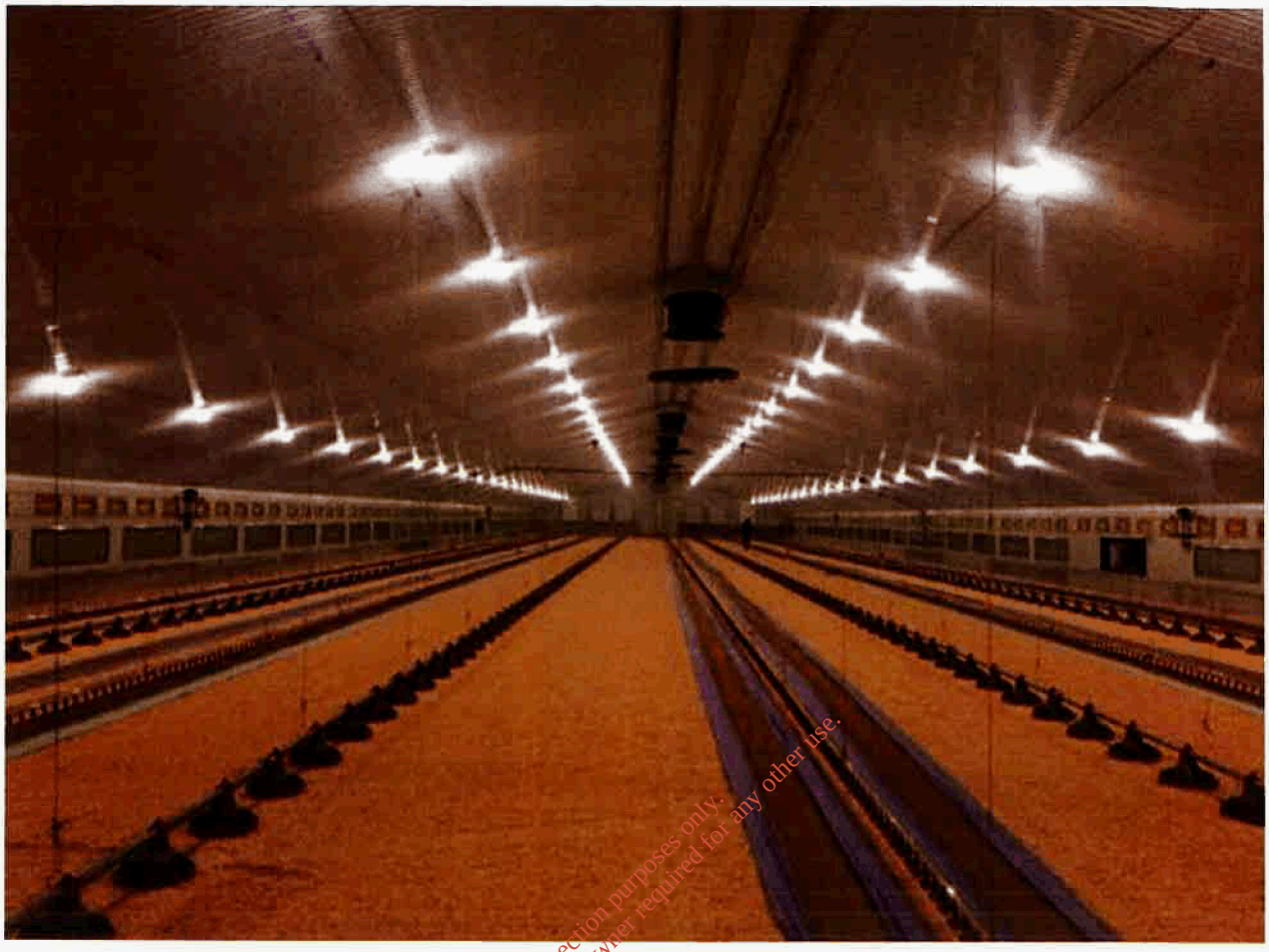


Figure 3 – Internal layout of the existing well-insulated fan ventilated house and equipped with non-leaking drinking systems. (Also shown new LED energy saving lighting.)

- ***1(1)(6) Operation of the Proposed Development***

➢ ***Operating Hours:*** The main activities at this farm occur during normal working hours between 06.00 a.m. and 20.00 p.m. 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, Manor Farm, and customers of the processors. Manor Farm arrange for a number of farm inspections to be carried out during the year, so as to ensure that all of their production standards and requirements are being complied with. In addition to the above the applicant is/will be subject to inspections from Bord Bia, the Department of Agriculture, Food and Marine, Cavan Co. Co., 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 houses. There are four stages of rations fed throughout the lifecycle, Starter, Grower 1, Grower 2 and Finisher. Each diet is tailored to meet the birds 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 is expected to be c. 30 t/week (or 40T/week in the traditional system) a proposed increase from c. 15 T/week as per the previously approved development. All feed to be used on this farm will be supplied from specialised feed suppliers and mainly from Kolbe Feeds, Shercock.

- ***Production Cycle:*** The applicant is responsible for the maintenance and preparation of the houses, 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 houses until c.8 (free range) weeks (5-6 weeks traditional) 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 farming system currently proposed for the previously approved and currently proposed houses, and subject to Cavan Co. Co., E.P.A. and D.A.F.M approval is based on a;

- free range farming cycle of c. 10 weeks with approximately 5 cycles per annum. This cycle is outlined below.
- traditional farming cycle of c. 7-8 weeks with approximately 6-7 cycles per annum.

In the following paragraphs the sections in italics relate to the free range farming system only.

Existing / Proposed Free Range Production cycle

- ***Weeks 1 – 4*** *Day old chicks are held indoors for this four week period until they are able to survive outdoors.*
- ***Weeks 5 – 8*** *Chickens have access to the outdoor "range" area during daylight hours, but are closed in at night. At the end of week eight the chickens are removed off-site and the house prepared for cleanout.*
- ***Weeks 8 – 10*** *House cleanout occurs, i.e. all litter and bedding material is removed, and the house is disinfected and rested.*
- ***Week 10*** *The house is bedded with fresh bedding material, ready for the next batch of day old chicks, and the cycle starts again at week one.*

(The traditional farming system follows a similar cycle and processes albeit over a shorted growing cycle and the birds do not range outside.)

The requirements for free range production are clearly defined in Irish and E.U. Legislation. In addition to these legal requirements, this proposed enterprise would be subject to,

- *Licensing from the Department of Agriculture and Food, under E.U. Regulations*
- *IE licensing from the Environmental Protection Agency.*
- *Bord Bia Approval, under the Poultry Products Quality Assurance Scheme. This involves conforming to Bord Bia standard, EN 45011.*
- *Audits and certification from the major retailers such as Superquinn and Supervalue.*
- *Compliance with the Manor Farm Code of Standards for Growing Broilers.*

All of the stated regulatory requirements and schemes involve strict compliance with all relevant legislation regarding matters such as animal welfare, environmental protection, rodent control, odour control etc. As part of these requirements this site would be subject to comprehensive monitoring, record keeping and on-going external monitoring.

Some of the legislative requirements for free range chicken production include,

- *Stocking rates not to exceed 13 birds/m^2 (in house).*
- *Stocking rates not to exceed 27.5 kg/m^2, (in house).*
- *Birds must have access to 1m^2 per bird, open air run covered mainly by vegetation.*

High health status will be a priority on this farm as it is of critical importance to maintain this for the overall viability of the enterprise. An overall animal health and welfare policy in accordance with Bord Bia requirements, will be developed to cover this additional development. Hygiene routines will be carefully planned and monitored. The houses will be carefully cleaned down between flocks.

The poultry manure from this farm is/will be removed off site by an authorised contractor, McCartney contractors, on behalf of the applicant. The contractor provides the machinery and labour necessary for cleaning out the houses and is responsible for cleaning of the houses, arranging transport and making arrangements for the receipt of this material. McCartney contractors 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. 650-750 tonnes / annum (for both the free range or traditional farming systems) an increase of c. 350-450 tonnes from the c. 300 tons/annum proposed to be produced by the previously approved enterprise.

As outlined above in the production cycle these birds are confined to the houses for the first 4 weeks after arriving on the farm. Subsequent to this they are allowed access to the range area during daylight hours only. Due to the fact that c. 21% of the feed used by the birds is used during the first four weeks and 79% in the second four weeks, it is anticipated that approximately 21% of the manure produced by the birds is produced in the first 4 weeks with the remaining 79% produced in the second four weeks.

In addition to the above the following must also be taken into account,

1. *that the birds only have access to the range area for an average of 8 hours/day, (i.e 33% of the time, this will increase during the summer and decrease during the winter).*

2. *That, although they are free to leave the houses, < 20% of the birds will be out at any one time during this period.*

The above figures have been calculated on the basis of information provided by the applicant, with regard to the habits of the birds as seen on their existing free range chicken house(s), and experience gained elsewhere. In order to ensure that the application of nutrients to the range areas by the birds is accurately determined it is recommended that a reduction in the nutrients deposited by the birds on the range area is applied for the reasons as outlined above.

In order to ensure that the time spent outdoors by the birds has been accurately calculated it is recommended that the total nutrient excretion by the birds during the four weeks that they are allowed out is reduced to;

= 0.79.33*<.20*
= approximately <5% of total production, with the remaining 95% to be moved off by the appointed registered contractor.

In the traditional farming system the birds will not range outside.
As previously detailed the manure management proposals will ensure that the management of manure/organic fertiliser on the site will be in compliance with S.I. 605 of 2017, as amended, 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.

Soiled water from the existing, and proposed development where applicable, will be collected in dedicated soiled water collection tank(s), located at the end of the houses. This soiled water will then be applied to farmland in line with S.I. 605 of 2017, as amended, See Appendix No. 8.

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 used to deliver feed to the farm. A vital part of maintaining health within the unit is the 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 their 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.

The applicant will seek approval under the Bord Bia approval system, as per the Poultry Products Quality Assurance Scheme (PPQAS), upon commencement of poultry farming activities in the new development. As part of this approval the daily procedure will follow the Bord Bia Poultry Products Quality Assurance Standard Producer Requirements.

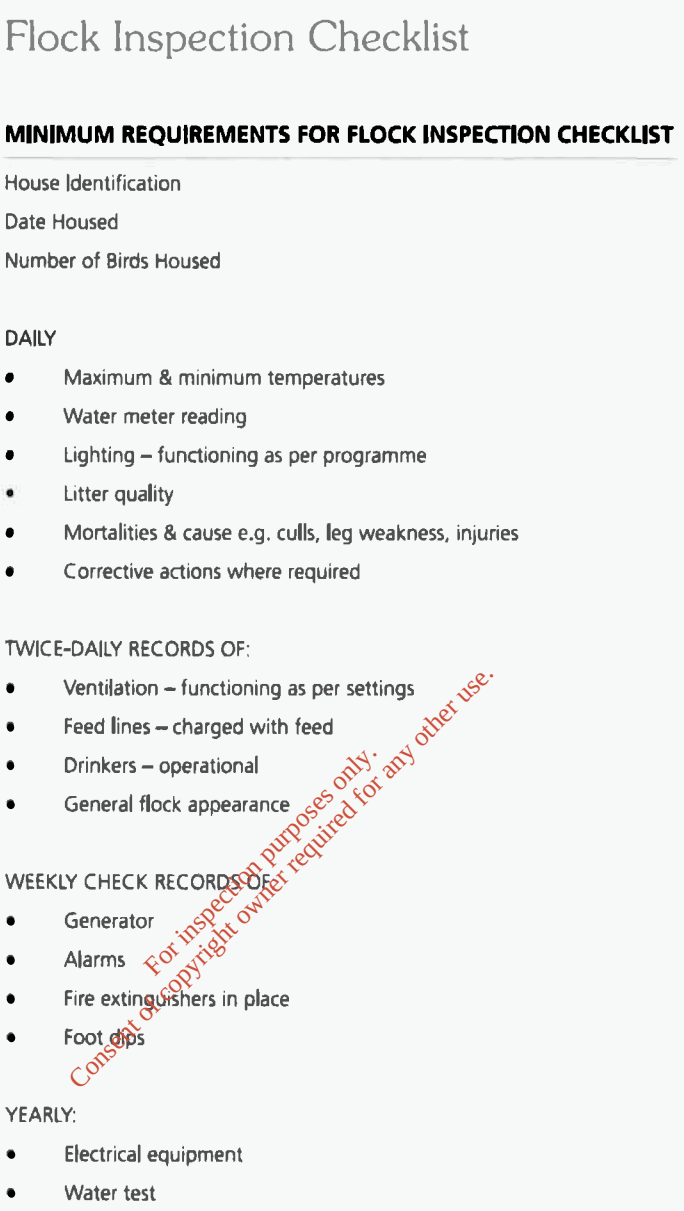
The following house checklist and flock inspection checklist are included as part of this standard;

House Preparation Checklist

Preparation of the House:

- Spread fresh bedding evenly to cover the floor.
- Pre-heat the house gradually, at a minimum, 24 hours before the birds arrive.
- The temperature must be stable.
- Set up space heaters or brooders 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 their arrival at the house. Starter ration 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.

A house preparation sheet must be completed before the arrival of each batch of chickens that records the following at a minimum:



Flock Inspection Checklist

MINIMUM REQUIREMENTS FOR FLOCK INSPECTION CHECKLIST

House Identification

Date Housed

Number of Birds Housed

DAILY

- Maximum & minimum temperatures
- Water meter reading
- Lighting – functioning as per programme
- Litter quality
- Mortalities & cause e.g. culls, leg weakness, injuries
- Corrective actions where required

TWICE-DAILY RECORDS OF:

- Ventilation – functioning as per settings
- Feed lines – charged with feed
- Drinkers – operational
- General flock appearance

WEEKLY CHECK RECORDS OF:

- Generator
- Alarms
- Fire extinguishers in place
- Foot dips

YEARLY:

- Electrical equipment
- Water test

Figures 4 & 5 – Bord Bia House Preparation and Flock Inspection Checklist

➢ ***Management of Organic Fertiliser:*** The poultry manure from this farm will be removed off site by an authorised contractor, McCartney Contractors, on behalf of the applicant. The contractor provides the machinery and labour necessary for cleaning out the houses and is responsible for cleaning of the houses, arranging transport and making arrangements for the receipt of this material. McCartney Contractors carries 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 a total of c. 650-750 tonnes / annum (for both the free range or

traditional farming systems) an increase of c. 350-450 tonnes from the c. 300 tons/annum proposed to be produced by the previously approved enterprise.

As previously detailed all manure will be moved off-site by an approved registered contractor in compliance with S.I. 605 of 2017, as amended, 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 collection tank, located at the end of the houses. Estimated maximum soiled water production will be c. 160-200 m^3/annum, upon completion of the proposed development. This soiled water will then be applied to farmland in line with S.I. 605 of 2017, as amended. A map is included in Appendix 8 indicating the location and extent of farmland available for soiled water.

  The applicant's brother (Mr. Neville Hall) farms c. 13.4 hectares to be used for bovine (grazing/silage) production. Soiled Water from the existing poultry farm at Drumeague and the proposed expanded development at this site will be allocated to these lands as indicated in Appendix No. 8.

  The applicant's brother (Mr. Neville Hall) farms c. 13.4 hectares to be used for bovine (grazing/silage) production. Soiled Water from the existing poultry farm and the proposed development will be allocated to these lands as indicated in Appendix No. 8. The stocking rate for 2020 was c. 32 kg Organic N/ha (Jan – Dec 2020). The application of c. 200 m3 of soiled water from the proposed expanded development with an estimated N content of 1.1 Kg Organic N/Ha will increase this stocking rate by c. 16.5 Kg Organic N/Ha to c. 48.5 kg Organic N/Ha well inside the 170 Kg Organic N/Ha limit. Neville hall also proposes to accommodate an additional 200m^3 from Mr. Kenneth Hall's / Mag World Ltd farm at Drumeague thus increasing the organic N from 48.5 kg N/HA to c. 65 Kg Organic N/Ha.

- ***Bio-Security:*** 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 the 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 their 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.

The management and operation of the proposed development as outlined is as per that currently practiced by the Mr. Kenneth Hall on the existing poultry enterprise at Drumeague and as previously approved at this location.

2. Scoping of Environmental Impact Assessment

The scoping of this E.I.A.R. was carried out by the design team;

- CLW Environmental Planners Ltd., (Paraic Fay B.Agr.Sc (Lead) and Oliver Leddy B.Agr.Sc. (Technical Input)
- Manor Farm, and the
- Applicant,

and was completed in line with previous submissions to the Environmental Protection Agency, Cavan County Council and other Local Authorities. Other organisations and bodies consulted directly/indirectly include: -

- Geological Survey of Ireland.
- Met Eireann.
- Central Fisheries Board.
- Office of Public Works.
- Department of Agriculture, Food and the Marine
- Department of the Environment, Community and Local Government
- National Parks and Wildlife Service.
- Teagasc, Johnstown Castle.
- Environmental Protection Agency
- Ted Duffy, Horizon Group
- Noreen McLoughlin, MSc MCIEEM (Ecologist), Whitehill Environmental

The scope of the Environmental Impact Assessment conducted in respect of the proposed expansion includes the following:

- The requirements of the EU Directive, the *European Communities (Environmental Impact Assessment) Regulations, as amended*, and the *Local Government (Planning and Development) Regulations, 2001 as amended.*

- Guidelines on information to be contained in Environmental Impact Assessment Report - EPA Draft August 2017
- The requirements of Cavan County Council, as elaborated in the current *County Development Plan 2014-2020.*
- The likely concerns of local residents and other third parties.
- The nature, location and scale of the proposal.
- The existing environment, as well as any vulnerable or sensitive features and current uses.
- The likely and significant impacts of the proposed development on the environment.
- Available methods of reducing or eliminating undesirable impacts.

The *European Union (Environmental Impact Assessment) Regulations,* (as amended) and directive 2014/52/EU prescribe a list of areas of the environment that must initially be addressed in any E.I.A.R. These areas comprise/may comprise of:

- Population and Human Health.
- Bio-Diversity (Flora & Fauna, Special Policy Areas etc.).
- Land and Soil.
- Water.
- Air.
- Climate / Climate Change
- 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 potentially significantly impacted by this development have been assessed in detail in this E.I.A.R., in line with E.I.A.R. draft guidelines.

Any development may result in indirect effects, along with the direct effects of demolition (if applicable) and 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 proposed development.
- Potential impacts during operational phase of proposed development.

	NO DEVELOPMENT	CONSTRUCTION PHASE	OPERATIONAL PHASE
Population / Human Health	≈	✓✓	✓✓
Biodiversity (Flora)	≈	×	≈
Biodiversity (Fauna)	≈	×	≈
Land and Soil	≈	≈	✓✓
Water	≈	×	××
Air	≈	≈	×
Climate	≈	≈	≈
Ambient Noise	≈	×	≈
Cultural Heritage	≈	≈	≈
Landscape	≈	××	×
Material Assets			
▪ Traffic	≈	×	×
▪ Land Use	≈	≈	✓
▪ Employment	×	✓✓	✓

Key:

≈	No Impact		
×	Slight Negative Potential Impact	✓	Slight Positive Potential Impact
××	Moderate Negative Potential Impact	✓✓	Moderate Positive Potential Impact
×××	Significant Negative Potential Impact	✓✓✓	Significant Positive Potential Impact

2(1) 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

This is considered in some detail later in this statement.

2(2) Project Type as per EPA Guidelines (Note revised Advice Notes specific to E.I.A.R. not yet published)

The EPA have published Draft Guidelines on the Information to be contained in an EIAR and Draft Advice Notes for Preparing an EIS. In these advice notes they have classed development listed under the *Planning and Development Regulations 2001 fifth schedule* into various Project Types. For each project type they have outlined the information to be contained within an EIS for a project of this type. In this case, a poultry farm is classed under *Project Type 13 Pig Rearing Installations* and *Poultry Rearing Installations*.

Under *Project Type 13* the EPA Guidelines outlines the information to be contained within the Development Description and the description of the Environmental Effects. Appendix No. 4 includes the summary provided in these guidelines for this *Project Type 13*. It outlines possible mitigation options for this type of development. The Guidelines describe the principle concerns likely to arise as stemming from the issues of manure handling (mainly slurry/manure) and odours. The significance of impacts is very much a factor of the site's proximity to sensitive receptors although it highlights that such projects frequently dispose of wastes at locations which are not adjacent to the animal rearing operations.

While these Guidelines remain in a Draft format, and they relate to the preparation of an EIS (forerunner of E.I.A.R.), consideration has been given to these in the preparation of this E.I.A.R. Details of Project Type 13 from the EPA Guidelines have been included as Appendix No. 4.

3. Description of Reasonable Alternatives

- ***3(1) Alternative site***

The farm development project represents a logical approach to the planned development of the applicant's farming activities. While the applicant had previously looked at alternative locations for the development within his landholding (and notwithstanding that there are plans to expand the existing development at Drumeague) the option of a third site was discounted at this time due to a number of factors, primarily the integration with the previously approved structures on the farm, and the requirement from Manor Farm for larger houses, as a result of improved farm and processing efficiencies.

The current proposal, irrespective of any planned developments proposed by the applicant's family elsewhere affords the applicant the opportunity to make best use of the existing facilities on this farm, and at this location, while providing for a modest intensification of activities at this location, and the creation of an economically viable farm enterprise.

While the applicant has screened the remaining lands available to him, (having already further optimised the development of the Drumeague Site), development at this location was deemed the most appropriate. For the purposes of this farm development, the expansion of the existing approved site was deemed to be the most suitable option to increase the scale of the existing activity, due to topography, the status of the site, distance from neighbours, site access and the integration of the proposed development with the previously approved structures, and existing farming activities/practices on the farm. In addition development on the proposed site complies with Cavan Co. Co. requirements as detailed in the current Development Plan.

It is intended that if and when the proposed development for which permission is being sought is authorised and constructed it will be integrated into the existing farming activities previously approved and to be operated by the applicant. This will ensure that access, services, labour and ancillary equipment can be easily shared, and is a natural progression for the development of this farm.

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/groundwork's required, and is adjacent to, and integrated with the previously approved poultry house site. Same needs no ancillary services and /or provision for access etc as this is already to be provided, by the completion of the previously approved development.

- Notwithstanding that there is a certain amount of recontouring of the site, this is not an overly elevated site in terms of the wider landscape, will not be visually detrimental. and will be integrated with the previously approved structures on the farm.

- Bio-security is important to any enterprise such as this and the applicant would like to maintain this to the highest standards. The proposed development will be integrated into the site management protocols governing the previously approved house, and is deemed acceptable at this location as there is permission for a poultry house already approved at/adjacent to this location.

- Is > c.200 m from any third party dwellings.

- ***The proposed site has no significant and/or specific environmental constraints which mitigate against the proposed site and/or would support the selection of any alternative site available to the applicant, in preference to the currently proposed site.***

- ***3(2) Alternative Layout and Design***

As previously stated the layout of the proposed housing was designed to ensure that the proposed developments were integrated into the existing site, previously approved structures and farming practices, and surrounding landscape, with minimal, if any, adverse visual impact on the surrounding landscape. The proposed layout was also designed so as to utilise the existing access on site for all traffic associated with the approved/proposed developments, and to ensure that the site is contained, safe and efficient in operation. The location and layout of the proposed poultry house, integrated into the landscape and utilising the existing access route, will minimise any potential adverse visual impact.

The scale of the proposed development is average compared to current poultry house/farm sizes however same will be successfully integrated into this site and the approved activities to be operated by the applicant, and is suitable to the proposed site in terms of both intensity and physical dimensions, and thus is deemed appropriate for the site.

The design of the proposed development to be undertaken by the applicant was researched and reviewed with the aid and guidance of Manor Farm, commercial poultry house designers, the architect and commercial poultry equipment suppliers. The proposed developments will be successfully integrated with the previously approved houses/developments, to minimise any potential visual impact.

As previously stated the design of the proposed housing is in line with BAT requirements. The exterior finish, where practicable will be green or similar in colour and will be sympathetic to the local environment. All roofing materials will be green or dark in colour. As the proposed design is in line with BAT requirements and as natural/dark coloured/grey finishes are proposed, no other alternatives were deemed appropriate.

No other alternative sites, layouts and/or designs were deemed satisfactory and/or appropriate, as the proposed location, design and layout;

- Complies with the requirements of the Nitrates Directive.
- Satisfies the applicant's need for efficiencies of scale while not requiring significant additional lands.
- Is in line with BAT requirements. The measures outlined as BAT for the Poultry Sector, (***COMMISSION IMPLEMENTING DECISION (EU) 2017/302 of 15 February 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the intensive rearing of poultry or pigs)***, and in particular this type of production include:
  - ***Natural ventilation, equipped with a non-leaking drinking system (in case of solid floor with deep litter).***
  - ***Forced ventilation and a non-leaking drinking system (in case of solid floor with deep litter).***
- Will be well integrated into the landscape with the use of similar construction techniques, natural/dark coloured finishes as proposed, and additional landscaping where required.
- Complies with the requirements of the County Development Plan.
- Is not located in an area with any significant environmental and/or other constraints.

- **3(3) Alternative Size**

The proposed development of 1 No. poultry house has been designed and scaled to take into account the;

- Physical restraints/parameters of the site/landholding, and the previously approved activities carried out thereon.
- Economies of scale for the applicant so that the scale of the proposed development is sufficient to cover the development as well as operational costs, and improve operational efficiencies on the farm.
- The requirements of Manor Farm in terms of their supply requirements and recommendations from same with regard to economic and sustainable food production, and to improve production efficiencies.

The scale of the proposed development is in keeping with the scale of other existing farms supplying Manor Farm, and licensed by the E.P.A. which are operating without adverse environmental impact, and are of a scale that can be appropriately managed by the applicant.

- **3(4) Alternative Process's Considered**

As this is a previously approved poultry farm site, the applicant has previously made the decision to diversify from dairy farming to poultry as same was deemed to be more compatible with the applicants requirements and goals, and aligned better with the resources available to both generations of the family. Within the poultry sector the applicant looked at a number of alternative processes, including but not limited to;

1. Layer Housing (Free Range or traditional) – (i.e. utilising the site for the construction of houses for the production of eggs. However as a result of recent changes announced by supermarkets and the goal that all eggs will be sourced from free range systems by 2025, the completion of enriched cage housing was not an option, notwithstanding same would also have bio-security concerns on an existing/approved free range broiler site.

2. Traditional broiler– This is the main alternative to the free range farming systems, however this system does not suit the proposed development on its own as it conflicts with the previously approved enterprise due to differing criteria and production cycles. In addition the requirements of Manor Farm at this juncture are for Free range and not traditional .

   Notwithstanding same, provision has been made within this E.I.A.R. for the entire farm to be able to react to market demands if the need so arises, by operating as a traditional broiler farm, thus eliminating any concern pertaining to differing production cycles.

3. Notwithstanding points 1 and 2 above, the decision on any alternative process was predicated on the fact that any alternate farming system would pose too great a bio-security risk to the applicant's existing free range broiler farm and thus could not be given any further consideration.

The proposed development offers the best fit between the proposed and existing/previously approved enterprise on the farm, both from a labour and efficiency viewpoint and to ensure that all activities are carried out in an environmentally and economically sustainable manner. All chickens from the proposed farm are to be sent to Manor Farm.

- **3 (5) Alternative Management of By-products**

Application to land and/or use in compost production are the two main practical economic means of utilising the nutrients in poultry manure. The poultry industry locally has a dedicated system established for the management of poultry manure involving a number of specialist contractors registered with The Department of Agriculture, Food and The Marine. The applicant has received confirmation from their existing contractor that they will manage and remove the poultry manure from the currently proposed and previously approved developments. At present there is no other suitable option for the utilisation of organic fertiliser produced within the proposed development, however the applicant will continue to examine the possibility of alternative uses for this fertiliser.

4. Environmental Assessment

4(1)(1) Description of the physical characteristics of the proposed development and the land use requirements during construction and operation.

The physical characteristics of the proposed development will comprise;-

- An existing entrance onto the local public road.
- Maintain existing hedgerow plantations along the site boundary, with the exception of those to be removed, if any, to facilitate the proposed development.
- All manure to be moved off site by a registered contractor in line with the requirements of S.I. 605 of 2017, as amended.
- The currently proposed building, and previously approved building, are of a form, design, colour and materials that are sympathetic to their surroundings, and similar in nature to the existing poultry housing structures, previously approved for this farm, operated by the applicant elsewhere and/or located throughout Co. Cavan. The proposed poultry house is c. 140.201 m long, 23.38 m wide and c. 6.5-7 m high. The proposed building will be a steel portal frame construction on a concrete base, with pre-fabricated panel walls or pvc coated metal cladding on an insulated concrete stub wall.
- Underground soiled water storage tank(s) in which soiled water would be collected and stored pending application to farmland, in accordance with SI 605 of 2017 as amended.
- Existing hedgerows/landscaping will be maintained where possible, and strengthened where necessary, along the boundary to further screen the previously approved and currently proposed development from view.

As previously stated the design of the proposed housing is in line with BAT requirements. All of the proposed structures on the site will be screened or blended in to the surrounding landscape by the external finish proposed for the structures, and/or the land topography where applicable. The external finish to the proposed building will be dark coloured or substantially similar, unless otherwise advised by Cavan Co. Co. and/or the E.P.A. Any additional landscaping to be introduced on the site will in accordance with the Dept. of Agriculture, Food and the Marine Specification, S135, as per Appendix No. 15.

During the construction phase, which will extend over a period of about 4 - 6 months, the proposed development area would be a typical farmyard construction site. All of the construction materials and equipment required would be transported in to the site by road. It is planned that all of the waste that would be generated in the completion of the proposed development would be segregated and moved from the site for disposal or recovery in authorised sites elsewhere.

The construction process is typical of this type of development involving site development/levelling works, laying foundations, erection of the shed (which will be substantially prepared off-site and delivered to the site), pouring of the concrete floor, fit out and laying on of services. This is similar to a large number of poultry houses / agricultural developments within the county, incl. those previously completed by the applicant, which have been completed without adverse impact. There are no sensitive areas/locations close to the site and no significant impacts are predicted.

4(1)(2) A description of the main characteristics of the production processes, nature and quantity of materials used.

The production processes which will take place on the previously approved/ currently proposed site would be:-

- The management, feeding and care of the birds.
- The despatch of all carcasses and other solid waste materials from the site for disposal or recovery at agreed/approved sites and
- The collection of all wash waters generated within or around the site in soiled water collection tanks pending application to farmland, in accordance with SI 605 of 2017 as amended.

The applicant will seek approval under the Bord Bia approval system, as per the Poultry Products Quality Assurance Scheme (PPQAS). As part of this approval the daily procedure will follow the Bord Bia Poultry Products Quality Assurance Scheme Producer Requirements. A vermin control programme will be implemented on site and recorded on a daily/weekly basis.

The main input materials to be used in the licensable activity are water and animal feed. Water for stock and for washing is to be sourced from the public supply / on-farm well. Estimated water use will be c. 2,750m3 (4,000m3 if operated as a 100,000 place traditional broiler farm) per annum for the activity, upon completion of the proposed development.

Poultry feed will be specifically formulated rations, formulated and prepared by a specialised poultry feed supplier such as Kolbe Feeds. All feeds used will be appropriate to the nutritional requirements of the birds, while at the same time minimising nutrient excretion. As previously stated there are 4 rations used in each production cycle. Please refer to additional information contained in Appendix No. 9. Total feed consumption is expected to be an average of c. 30 t/week (40 T/week if operated as a 100,000 place traditional broiler farm)upon completion of the proposed development, increasing from c. 15 tonnes, as would be required by the previously approved development.

Electricity would be used to power all the processes and services on the site. A back-up generator is in place / will be available in the event of a power failure. Estimated ESB usage = c. 1-1.5 kWh / bird place/annum.

Gas is used for heating the houses and houses will be, insulated to ensure that this is used as efficiently as possible. Heating will be by indirect heaters to minimise gas usage and improve the internal environment within the houses. Estimated Gas usage = c. 0.75 – 1.25 lt/bird place/annum

Wood shavings to be supplied by a local supplier.

4(1)(3) **An estimate, by type and quantity, of expected residues and emissions (including water, air and soil pollution, noise vibration, light, heat and radiation) and quantities and types of waste produced during the construction and operation phases.**

The expected residues and emissions that will result from the construction / operation of the proposed development are referred to below. The proposed residues/emissions will be proportionate to the scale of the proposed development.

Lighting in the premises will in so far as is possible, be by fluorescent tubes / L.E.D. and/or other energy efficient lighting devices. Spent fluorescent and other specialised light tubes are hazardous waste. The number of tubes to be replaced annually will be small. They will be accumulated in the store area pending delivery periodically to a local Civic Bring Centre and/or returned to the supplier by/or on behalf of the applicant. Lighting of the site will be the normal for farmyard sites and will not exert influence or interference outside the site boundary.

Supplementary heating is to be provided by gas burners. The amount of gas used will vary depending on outside climatic conditions. Energy efficiency will be a key deciding factor in the selection of a heating system and modern poultry heating systems are considerably more efficient than those used in older poultry houses. The amount of gas required will be significantly reduced due to the high insulation standards.

General wastes (<c. 1t/annum) such as packaging, paper, disposable clothing etc. will be collected regularly by a local contractor and/or transported by the applicant and delivered to the Landfill facility. It is intended that the frequency of collection of all wastes produced on site will be in line with E.P.A. and/or legislative requirements in this regard. See additional information which is included in Appendix No 10.

Dead animals and animal tissues (<1 t/month) will be accumulated in a sealed leak proof container on site for collection by College proteins at 1 - 2 week intervals for transport to an authorised Animal By-Products facility at Nobber, Co. Meath. It is intended that the frequency of collection will be in line with Cavan Co. Co. / E.P.A. requirements in this regard. See correspondence which is included in Appendix No 6.

The organic fertiliser / poultry manure from this farm will be removed off site by an experienced contractor registered with the Department of Agriculture, Food and The Marine, such as McCartney Contractors. The contractor provides the machinery and labour necessary for cleaning out the houses and is responsible for cleaning of the houses, arranging transport and making arrangements for the receipt of this material. The estimated total manure production upon completion of the proposed development will be c. 650-750 tonnes/annum, (700-750 tonnes if operated as a 100,000 place traditional broiler farm) increasing from c. 300 – 350 tonnes as per the currently approved development.

This organic fertiliser is not considered a waste product and is to be utilised as an organic fertiliser in line with S.I. 605 of 2017, as amended and/or in the production of mushroom compost.

Soiled water from the existing and proposed development will be collected in dedicated soiled water collection tank(s), located on-site. This soiled water will then be applied to Mr. Hall's families farmland in accordance with the Nitrates Regulations.

Normal operations on the site of the proposed development, as for the existing activities, will not cause any pollution of soil.

Noise generated in the proposed/existing development in the site will not exceed legal limits at any noise sensitive location, (as detailed in the existing EPA Licence and/or are as likely to be detailed in any E.P.A. Licence issued to this farm,

- Daytime dB LAr, T (30 minutes) 55,
- Evening dB LAr, T (30 minutes) 50,
- Night-time dB LAeq, T (30 minutes) 45

Extensive experience with the applicant's existing poultry farm at Drumeague and a large number of other existing sites, together with the significant distance to third party dwellings would suggest that the proposed development is not likely to have any adverse noise impact.

There would not be any source of significant *vibration* on the site. There will not be any significant *dissipation of heat* from the proposed/existing development. There will be no source of *radiation* on the site that could exert significant influence outside the site.

Mitigation measures are to be implemented to prevent any significant effect of the proposed installation, and the activities carried out therein, on environmental parameters. These measures are directed towards ensuring that the systems for collecting wastes and removing them from the site for appropriate treatment in authorised waste treatment installations will be adequate for that purpose.

Waste materials generated on the site, either from the proposed construction or under normal operating conditions, and/or during site development works, will be collected and transported off the site by appropriately authorised waste contractors to be consigned for disposal, recovery and/or recycling in appropriately authorised installations.

Implementation of the control measures proposed will ensure in so far as it is possible that significant adverse effects on environmental parameters will not occur and that accidental emissions are unlikely from the proposed development.

4 (2) A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

The proposed development is to be completed on/adjacent to a previously approved poultry farm site at Liagar and Corglass, Bailieboro, Co. Cavan. The proposed development consists of 1 No. poultry house together with all ancillary structures and facilities necessary for the operation of this enterprise (in addition to the poultry house currently under construction and previously approved on this site), thus increasing the overall bird numbers farmed by the applicant on this farm to c. 85,000 (free range) -100,000 (traditional) from c. <40,000 as currently approved.

The proposed development of 1 No. poultry house will be completed on a site integrated in the landholding, and with the previously approved structures, so as to minimise any potential visual impact from same, and will be integrated with the existing operational activities of this proposed poultry farm site. This area is currently a managed agricultural area, and thus has limited bio-diversity. Were the proposed development not to proceed, the development site would remain in its current state.

4(3) Description of the aspects of the environment likely to be significantly affected by the proposed development.

It is envisaged that no aspects of the environment will be significantly affected by this proposed development. The potential effects on the environment may be subdivided into effects on population and human health, bio-diversity (flora and fauna), land and soil, water, air, the landscape and material assets including archaeological heritage. There is no known potential for any adverse issues in relation to architectural or cultural heritage.

- ***4(3)(1) Effect on Population and human health***

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 heath and/or human beings are not anticipated. There are no third party dwellings close (i.e. within c. 200 metres) to the proposed development as to be adversely affected by, or experience significant impairment of amenity due to the proposed development.

The proposed development is unlikely to generate or release sounds or odours that will significantly impair amenity beyond the site boundary. The experience of other similar sites, including that operated by the applicant, indicates that the legal limits for such emissions, 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 odorous 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.

➢ CONSTRUCTION NOISE IMPACT ASSESSMENT

A variety of items of plant will be in use for the construction of the poultry farm development, such as excavators, lifting equipment and dumper trucks. There will also be vehicular movements to and from the site that will make use of existing roads. Due to the fact that the construction programme has not been established, it is difficult to calculate the actual magnitude of noise emissions to the local environment. However, it is possible to predict typical noise levels using guidance set out in *BS 5228-1: 2009: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*.

The data presented in the table below is typical of the machinery to be used on site, in the development of a poultry house(s) and would be similar to that experienced in the development of the existing houses. The two noise sensitive locations (referred to in the table below) while not specific to this site, are located 150 m from a development site, a distance that is significantly less than the noise sensitive location(s) closest to this proposed development (i.e. 200m+).
It must be stated that for the majority of the time, plant and equipment will be at a greater distance from these buildings than that used for the calculations and consequently will have lesser impact. Our assessment would therefore be representative of a "worst-case" scenario.

Note that a utilisation of equipment of 75% over a working day was assumed in the preparation of these construction noise predictions.

Phase	Plant Item (BS 5228 Ref.)	Plant Noise Level at 10m Distance[1] (dB L_{Aeq})	Predicted Noise Level at NSL 1 (dB $L_{Aeq,1hr}$)	Predicted Noise Level at NSL 2 (dB $L_{Aeq,1hr}$)
Demolition & Site Preparation	Tracked excavator (C2.22)	72	60	60
	Dumper (C4.2)	78		
Foundation Laying	Compressor (D7.6)	77	63	63
	Poker Vibrator (C4.33)	78		
	Cement Mixers (C4.22)	76		
Steel Erection	Wheeled Mobile Crane (C4.38)	78	62	62
	Articulated Lorry (C11.10)	77		
General Construction	Compressor (D7.6)	77	63	63
	Diesel Hoist (C7.98)	76		
	Pneumatic Circular Saw (D7.79)	75		
	Generator (C4.84)	74		
	Internal Fit-out	70		
Roadworks	Surfacing & Rolling (D.8.26)	80	61 (150m) / 80 (10m)	61

The predicted construction noise levels at the nearest residential dwellings are within the maximum criterion of 65dB LAeq for construction activities during daytime and Saturday periods.

In order to further ensure that the Poultry Farm construction noise is reduced as far as practicable for these houses (previously approved and currently proposed), we would also recommend that the following measures be employed:

- ❖ Limiting the hours during which site activities likely to create high levels of noise are permitted;
- ❖ Establishing channels of communication between the contractor/developer, Local Authority and residents etc.;
- ❖ Appointing a site representative responsible for matters relating to noise emissions;
- ❖ Maintaining all site access roads so as to mitigate the potential for noise emissions from lorries.
- ❖ Selection of plant with low inherent potential for generation of noise;
- ❖ Erection of barriers as necessary around noisy processes and items such as generators heavy mechanical plant or high duty compressors;
- ❖ Placing of noisy / vibratory plant as far away from sensitive properties as permitted by site constraints.

The previously approved development and site of the currently proposed development are not located close to and/or likely to adversely impact on any areas of Primary or Secondary Amenity value as detailed in the Cavan County Development Plan 2014-2020. Please refer to Appendix No. 11 in this regard. Based on experience at similar sites elsewhere, including that operated by the applicant and existing farms elsewhere in the country significant effects are not anticipated. The applicant has not experienced any noise complaints to date relating to the operation of his existing farm at Drumeague.

Where nuisance effects occur, people object and under statutory requirements their objections will have to be investigated and have to be corrected if found to be real and justified.

- ***4(3)(2)Effect on Bio-diversity (flora and fauna)***

The site of the proposed developments is a greenfield/grassland area, currently used as part of the dairy farm enterprise As the proposed development will be limited in extent, and notwithstanding the fact that it will operate in addition to the applicant's previously approved poultry house at this site, it will have no adverse impact outside the boundary of the site.

The site forms part of the applicant's / applicant's families existing farming activities. The flora and fauna around the site has developed in this context. Much of the surrounding area is improved agricultural grassland. The area to be developed is relatively small and represents a sustainable addition to the approved poultry farming activities. Ground works and land profiling will be kept to a minimum outside the footprint of the proposed site.

Figure 6 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats. The Available Range Area is Outlined in Yellow, but subject to final agreement with Dept. of Agriculture, Food and The Marine.

The proposed development is not near to or likely to adversely impact on any areas of primary or secondary amenity value or views from scenic route. 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 Killyconny Bog SAC, some 16.4 Kms away. These designated areas and their closest points to the proposed development site are summarised in Table 1 and a map showing their locations relative to the application site is shown in Figure 5. .A full description of these sites can be read on the websites of the National Parks and Wildlife Service (npws.ie) and the Joint Nature Conservation Committee (jncc.defra.gov.uk)

Site Name & Code	Distance	Qualifying Interests	Significant Effects?
Killyconny Bog SAC 000006	16.4km south	• Active Raised Bogs. • Degraded raised bogs still capable of natural regeneration.	*Potential impacts arising from atmospheric emissions will be considered further.*
The River Boyne and River Blackwater SAC 002299	17.5km south / 27km downstream via the River Blackwater	• River lamprey (*Lampetra fluviatilis*) • Salmon (*Salmo salar*) • Otter (*Lutra lutra*) • Alkaline fens • Alluvial forests with alder *Alnus glutinosa* and ash *Fraxinus excelsior*	*Due to hydrological connectivity and potential atmospheric emissions, impacts will be considered further.*
The River Boyne and River Blackwater SPA 004232	17.5km south / 27km downstream via the River Blackwater	• Common Kingfisher *Alcedo atthis*	*Due to hydrological connectivity and potential atmospheric emissions, impacts will be considered further*

Table 1 – Natura 2000 Sites Within 15km of the Proposed Site

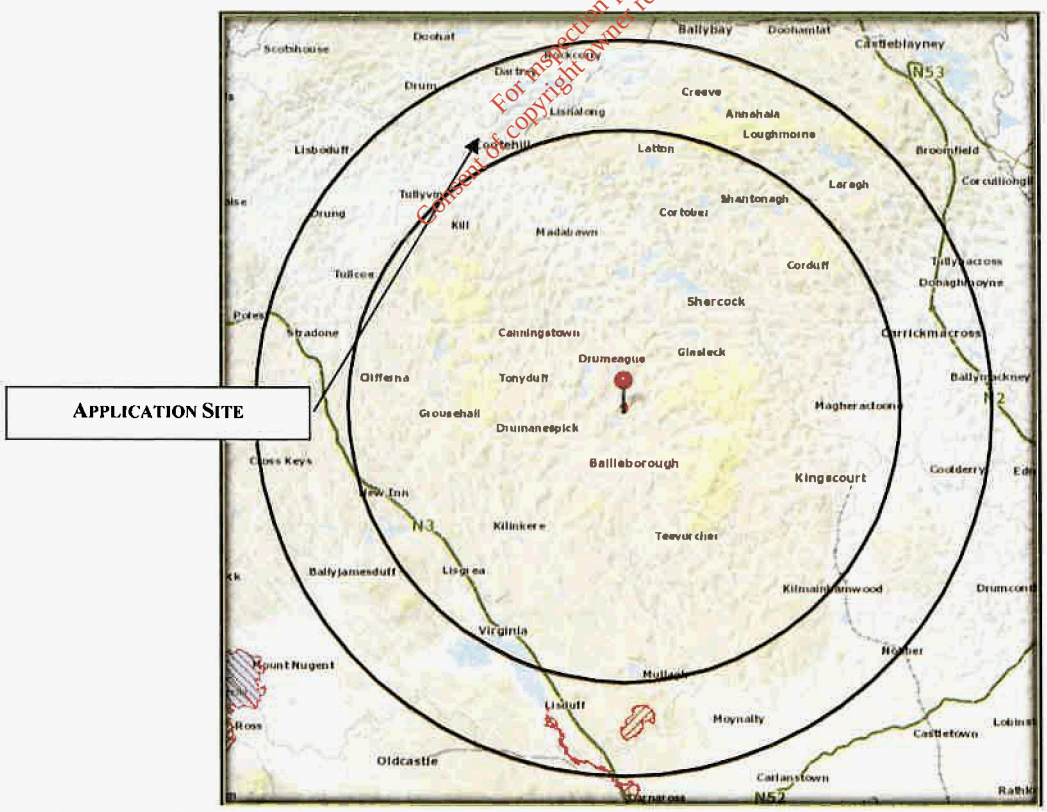


Figure 7 – The Application Site in relation to the Natura 2000 site (SACs - Brown Hatching, SPAs – Vertical Hatching)

Please refer to the appropriate Assessment Screening report contained in Appendix No. 18.

- Ammonia

In order to predict atmospheric emissions of ammonia from facility at Lisgar, a SCAIL model (Simple Calculation of Atmospheric Impact Limits) was run by CLW Environmental Planners Ltd to determine the potential impacts of this farm on designated sites. In this instance a number of factors were taken into account, such as the use of natural ventilation. The results of the SCAIL outputs for ammonia are presented below. These figures are based on 100,000 birds.

Killyconny Bog SAC				
Background NH3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
2.75 µg/m³	0.0122 µg/m³	2.762 µg/m³	1 µg/m³	1.23%
SPA River Boyne and Blackwater SAC				
Background NH3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
2.67 µg/m³	0.0115 µg/m³	2.681 µg/m³	1 µg/m³ - 3 µg/m³	1.15% - 0.38%
River Boyne and Blackwater SPA				
Background NH3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
2.67 µg/m³	0.0115 µg/m³	2.681 µg/m³	1 µg/m³ - 3 µg/m³	1.15% - 0.38%

Table 2 Ammonia Loadings Arising from Proposed Development on Natura 2000 Sites

- Nitrogen Levels

The SCAIL results for the predicted deposition of nitrogen are presented in the table below. For the SACs, either the SCAIL critical loads or those defined by APIS (Air Pollution Information System) were used.

Killyconny Bog SAC				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL**
16.33 kg N/ha/yr	0.06 kg N/ha/yr	16.39 kg N/ha/yr	5 kg N/ha/yr (Active Raised Bog)	1.2%
			5 kg N/ha/yr (Degraded Bog)	1.2%
River Boyne and Blackwater SAC				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL**
17.09 kg N/ha/yr	0.06 kg N/ha/yr	17.15 kg N/ha/yr	15 kg N/ha/yr (alkaline fen)	0.4%
			Alluvial Forests are Not Considered Nitrogen Sensitive	-
River Boyne and Blackwater SPA				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL**
17.09 kg N/ha/yr	0.06 kg N/ha/yr	17.15 kg N/ha/yr	15 kg N/ha/yr (alkaline fen)	0.4%
			Alluvial Forests are Not Considered Nitrogen Sensitive	-

Table 3: Nitrogen Loadings Arising from Proposed Development on Natura 2000 Sites

The application site lies within the Boyne Hydrometric Area and Catchment and the Blackwater (Kells) Sub-Catchment and Sub-Basin. There is a stream flowing along the western boundary of the application site. This stream flows south, entering Castle Lough approximately 500m downstream of the site. The River Blackwater emerges from Castle Lough.

The EPA have defined the ecological status of the watercourses that are close to the application site as being of poor ecological status. The River Blackwater at points upstream and downstream of Castle Lough is of poor status, and it improves to moderate status further downstream. The status of Castle Lough has not been defined. Under the requirements of the Water Framework Directive in Ireland, good status must be achieved in all water bodies within a specified time frame.

The land use surrounding the site is predominantly agricultural and the dominant habitat surrounding the site is improved agricultural grassland. The land-use surrounding the site is predominantly agricultural and the main habitat is improved agricultural grassland. Other habitats represented locally include areas of neutral and wet grasslands, mixed woodlands and scrub, hedgerows, treelines and water courses. Castle Lough is 525m north of the site. The site is bounded on all sites by grasslands (improved – wet/neutral).

An examination of the website of the National Biodiversity Data Centre revealed that there are records for the presence of six protected mammal species from the relevant one km^2 (N6799) of this proposed development. These species include:

- Daubenton's Bat *(Myotis daubentonii)*
- Eurasian Red Squirrel *(Sciurus vulgaris)*
- European Otter *(Lutra lutra)*
- Lesser Noctule *(Nyctalus leisleri)*
- Pipistrelle *(Pipistrellus pipistrellus sensu lato)*
- Soprano Pipistrelle *(Pipistrellus pygmaeus)*

A custom polygon generated for the site revealed that these records do not pertain to from within the application site itself.

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. See Appendix No. 13 for surface water quality data for this area.

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 The 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 areas in a clean and tidy manner.

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 License 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. No significant hedgerows will have to be removed to facilitate the proposed development.

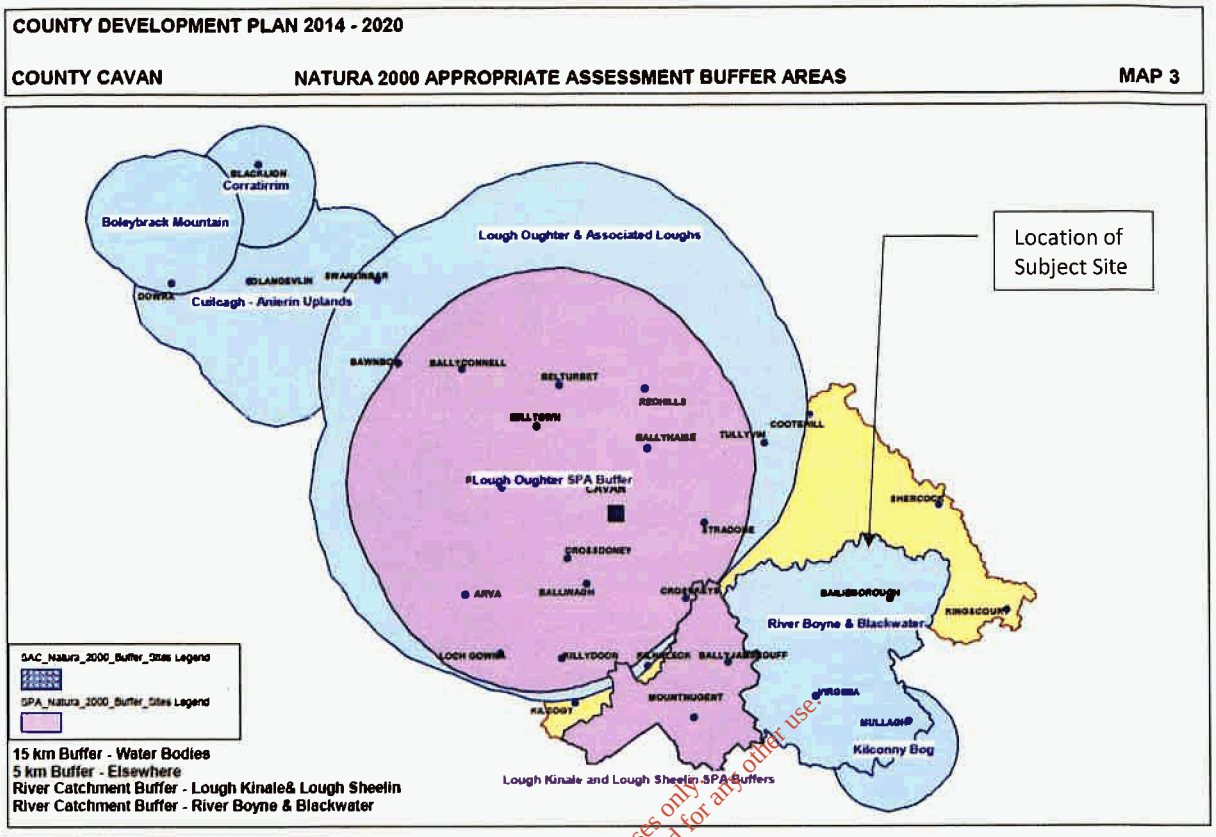


Figure 8 – Site Location in relation to Appropriate Assessment Buffer Areas

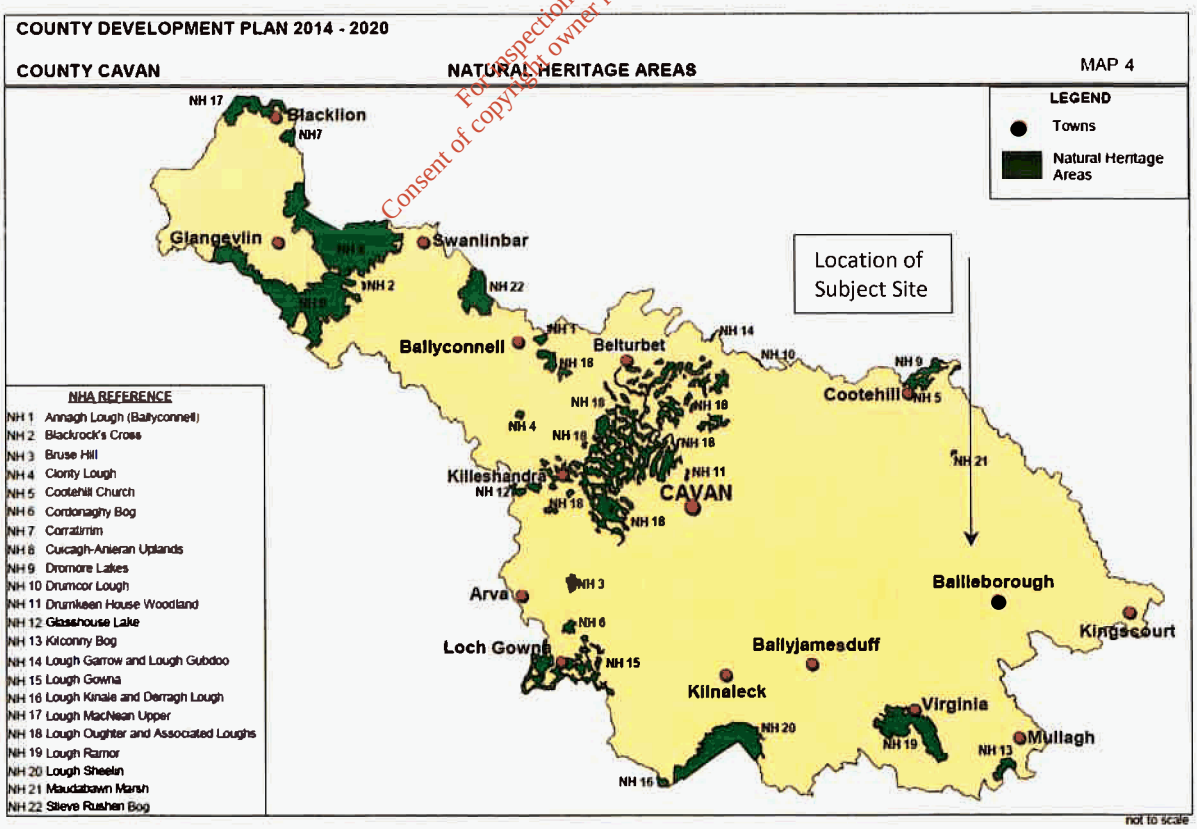


Figure 9 – Site Location in relation to Natural Heritage Areas

- ***4(3)(3)Effect on Land and Soil***

The structures proposed for the site would be constructed predominantly on a greenfield area, currently used as part of the dairy farming activities. As such there will be disturbance of same within the site 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 family landholding and the wider agricultural area.

A. Outside of the Development /Range Area:

Manure/Organic Fertiliser: The poultry manure from this farm will be removed off site by an authorised registered contractor, such as McCartney Contractors, on behalf of the applicant and will be in compliance with S.I. 605 of 2017, as amended, i.e. the regulations that have given effect to the Nitrates Directive in Ireland.

If anything there is the 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. At present all organic fertiliser is destined for compost production, and/or be supplied to customer farmers for use as organic fertiliser in accordance with S.I. 605 of 2017, as amended should the demand arise.

Soiled water from the proposed development where applicable, will be collected in dedicated soiled water collection tank(s), located at the end of the houses. This soiled water will then be applied to the applicant's families farmland in line with S.I. 605 of 2017, as amended.

Soiled water will amount to c.160-200 m^3/annum with an estimated nutrient content (nutrient content based on 90% Water:10% poultry manure (11 KgN and 6 Kg P /tonne)) of c.

- 1.1 Kg N
- 0.6 Kg P

The applicant's brother (Mr. Neville Hall) farms c. 13.4 hectares to be used for bovine (grazing/silage) production. Soiled Water from the existing poultry farm and the proposed development will be allocated to these lands as indicated in Appendix No. 8. The stocking rate for 2020 was c. 32 kg Organic N/ha (Jan – Dec 2020). The application of c. 200 m3 of soiled water from the proposed expanded development with an estimated N content of 1.1 Kg Organic N/Ha will increase this stocking rate by c. 16.5 Kg Organic N/Ha to c. 48.5 kg Organic N/Ha well inside the 170 Kg Organic N/Ha limit. Neville hall also proposes to accommodate an additional 200m^3 from Mr. Kenneth Hall's / Mag World Ltd farm at Drumeague thus increasing the organic N from 48.5 kg N/HA to c. 65 Kg Organic N/Ha.

B. Within the Development /Range Area (Only applicable to the operation of the farm as a Free Range activity, not applicable if operated as traditional production):

This site forms part of an overall farmed area of c. 45 Ha. As part of the operation of this Free Range Poultry Farm the birds will be allowed access to an outside range area at a stocking rate of 10,000 birds/ha. As a result of the existing and planned developments (85,000 bird free range enterprise) a c. 9 Ha block of land (as broadly outlined on the maps supplied, and subject to DAFM agreement) will be dedicated to free range production.

In the event of planning permission being granted and the proposed development progressing Mr. Kenneth Hall will adjust his bovine farming activities if, and as, necessary to ensure compliance with S.I. 605 of 2017, as amended.

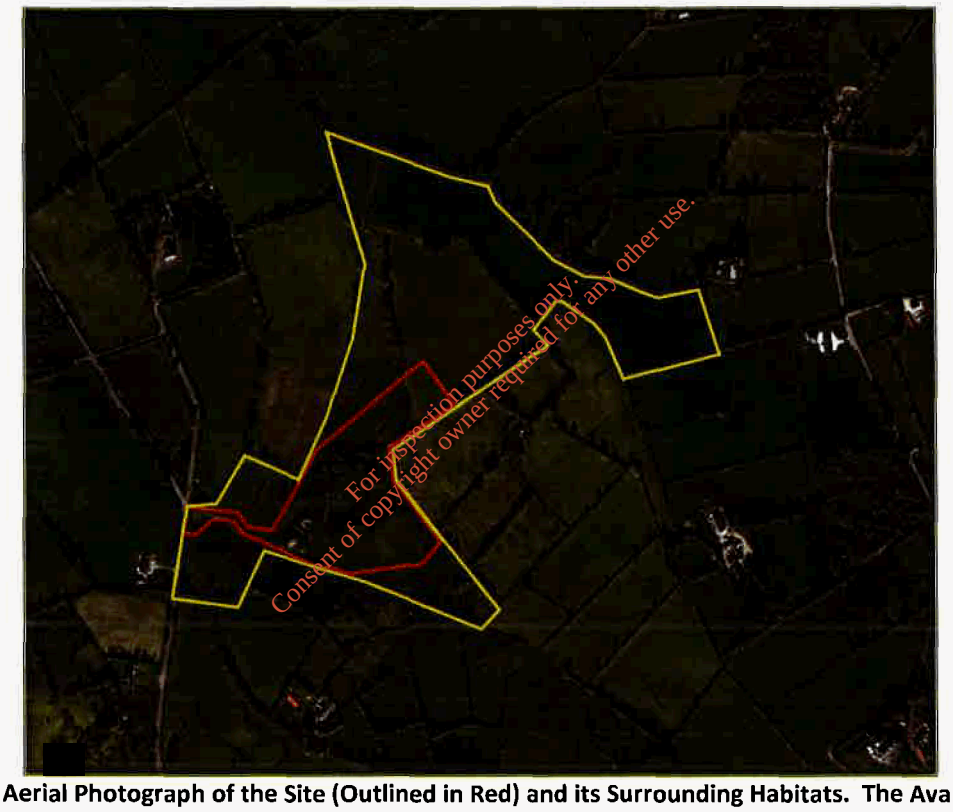


Figure 10 – Aerial Photograph of the Site (Outlined in Red) and its Surrounding Habitats. The Available Range Area is Outlined in Yellow, but subject to final agreement with Dept. of Agriculture, Food and The Marine.

For the purposes of the Nitrates Directive the stocking rate of animals/birds/hectare of agricultural area is calculated as kg Organic N/Ha. and under the Nitrates directive (without derogation) not more than 170 Kg Organic N (i.e. N from animal/poultry manure) can be applied /ha of net area, in this case the range area available to the birds. This Organic N allocation is averaged over the area available to the birds.

In order to determine the impact of the above we must first determine the amount of nutrients to be produced. The manure and nutrients produced will be allocated between the litter internally within the houses, and the range area available to the birds outside the houses.

As outlined previously, in paragraph 1(1)(6), during the farming cycle these birds are confined to the houses for the first 4 weeks after arriving on the farm. Subsequent to this they are allowed access to the range area during daylight hours only. Due to the fact that c. 21% of the feed used by the birds is used during the first four weeks and 79% in the second four weeks, it is anticipated that approximately 21% of the manure produced by the birds is produced in the first 4 weeks with the remaining 79% produced in the second four weeks.

In addition to the above we must also take into account the following,

- that the birds are only have access to the range area for an average of 8 hours/day, (i.e 33% of the time, this will increase during the summer and decrease during the winter).
- That, although they are free to leave the houses, only <20% of the birds will be out at any one time during this period.

The above figures have been calculated on the basis of information provided by the applicant, with regard to the habits of the birds as seen on their existing free range chicken house(s), and experience gained elsewhere. In order to ensure that the application of nutrients to the range areas by the birds is accurately determined it is recommended that a reduction in the nutrients deposited by the birds on the range an area is applied for the reasons as outlined above.

In order to ensure that the time spent outdoors by the birds has been accurately calculated the total nutrient excretion by the birds during the four weeks that they are allowed out is reduced to;

$$= 0.79*.33*<.20 = c. <5\ \%\ \text{of total production.}$$

Therefore 95% of the nutrients are removed in the litter. The litter produced equates to c. 75 tonnes per 10,000 birds per annum with a nutrient content of 11kg N and 6kg P/tonne, equivalent to 825 kg N and 450 kg P/ 000 birds/annum. Therefore the estimated nutrients to be deposited by the birds onto the range area is calculated as < 43.4 kg N and 23.7 kg P/10,000 birds/annum, or < 43.4 kg N and 23.7 kg P/ha/annum

It should be noted that it is not proposed to apply any additional fertilisers (organic and/or inorganic) to the range area, and that c.2-3 cuts of silage/round bales will be removed from this area annually.

Range Area Nitrogen and Phosphorous Balance /ha

No. of birds	10,000
Total N excreted while grazing per annum (@ 5%)*	43.4 Kg
Total P excreted while grazing per annum (@ 5%)*	23.7 Kg
Range Area	1 ha
Organic N deposited /Ha	**43.4 Kg****
P Deposited/Ha	**23.7 Kg**

* The birds deposit c. <5% of the total manure production outside as outlined above.
** This is significantly below the permitted stocking rate (170-250 kg organic N/ha as provided for by S.I. 605 of 2017, as amended) on the land.

Cropping Routine

The proposed stocking rate when equated in terms of the amount of organic N deposited per Ha by the livestock (Broilers) proposed, is significantly less than that resulting from Mr. Kenneth Halls existing bovine activities and/or that permitted by S.I. 605 of 2017. Therefore the proposed farm diversification will not result in any net intensification of activities on these lands.

Also introduced under the Nitrates directive were restrictions on the amount of Phosphorous to be applied to land. Based on a stocking rate of 10,000 birds per hectare this would provide a Phosphorous allocation of c. 23.7 kg/Ha. As no other additional P fertiliser will be applied to this area this will be the total P allocation per annum. Assuming the lands in question are at Index 3 for P (as per Article 16(2)(a) of SI 605 of 2017, as amended) the required allocation for the proposed first cut silage is 20kg/ha in accordance with Table 15 of Nitrates Directive, with an additional 10kgP for each cut thereafter. Therefore the proposed P allocation of 23.7 kgP/ha/annum, in conjunction with Soil Index 3, is below the required level of P to achieve the optimum yield of 2 cut of silage/annum. Due to the farming system whereby birds are not on the range area for periods of 6 weeks at a time (i.e. 2 weeks empty and first 4 weeks after stocking each batch) multiple silage cuts are easily scheduled during the year.

See Appendix No. 12 for general soil classification for this area. The soils in this area are described as drumlin soils with the site located within Soil association 25 (Gleys 50% Acid Brown Earths (40%) and Interdrumlin Peat and Peaty Gleys (10%)).

Teagasc Soils:

Parent Material	A
Parent Material Name	Alluvium
Parent Material Desciption	Alluvium undifferentiated
Soil Group	Variable
IFS Soil Code	AlluvMIN
IFS Soil Description	Mineral alluvium
County	CAVAN
Category	Alluvial (mineral)
Legend	AlluvMIN - Alluvial (mineral)

Parent Material	RckNCa
Parent Material Name	Bedrock at surface-Non calcareous
Parent Material Desciption	Bedrock at surface
Soil Group	Podzols (Peaty), Lithosols, Peats
IFS Soil Code	AminSRPT
IFS Soil Description	Predominantly shallow soils derived from non-calcareous rock or gravels with/without peaty surface horizon

County	CAVAN
Category	Shallow, rocky, peaty/non-peatymineral complexes (Mainly acidic)
Legend	AminSRPT - Shallow, rocky, peaty/non-peatymineral complexes (Mainly acidic)

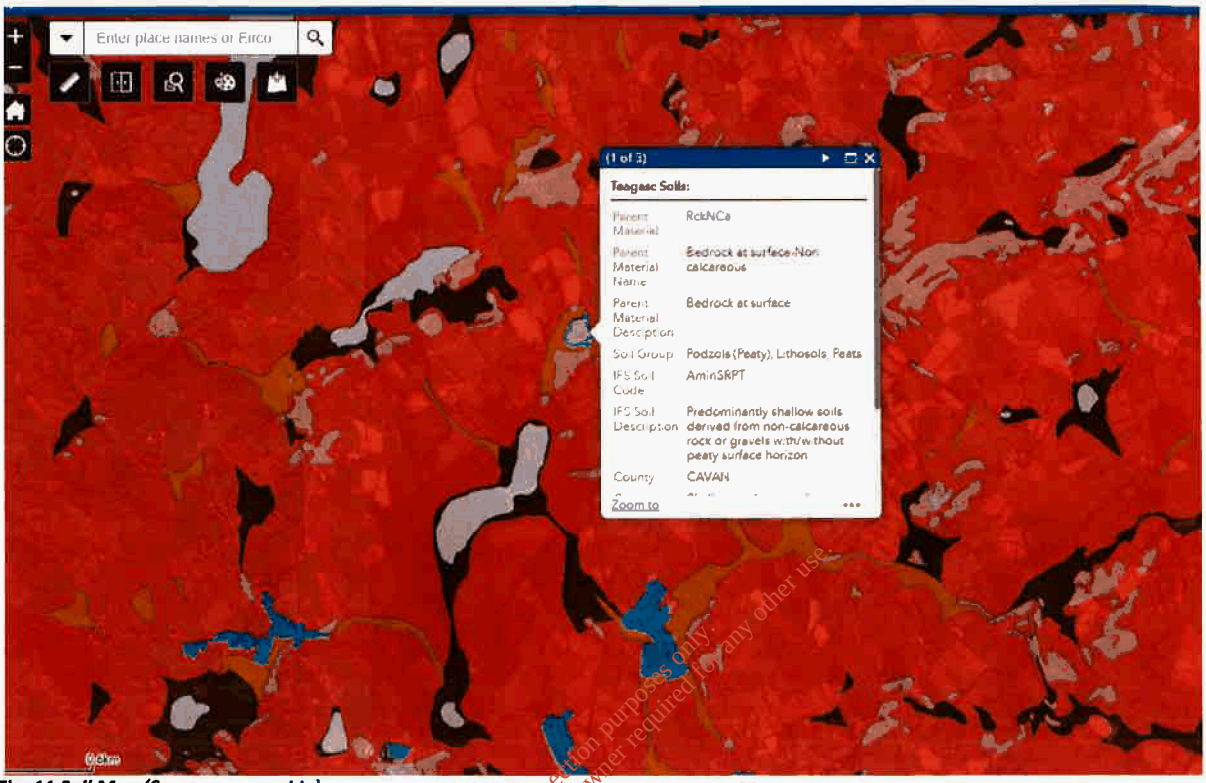


Fig. 11 Soil Map (Source www.gsi.ie)

- ***4(3)(4)Effect on Geological & Geomorphological heritage of the area.***

The structures proposed for the site would be constructed on/adjacent to a previously approved poultry farm site, that is currently in construction. There is no significant potential for any effect outside of the development area.

The site of the proposed development is a managed greenfield site. Given the nature and extent of the proposed development it will not have any adverse impact on the geology of the area, outside of the site. In addition as the proposed development will be integrated into the existing landscape due to the proposed finished floor level (FFL), land topography and existing landscaping the proposed development will not have any adverse impact on the landscape and/ or the geomorphological heritage of the area.

The proposed development is located outside of the Ribbed Moraines or any other such geological features as detailed in the Geological Site Map as detailed below. As previously detailed the proposed development will not adversely impact on the landscape and/ or the geomorphological heritage of the area

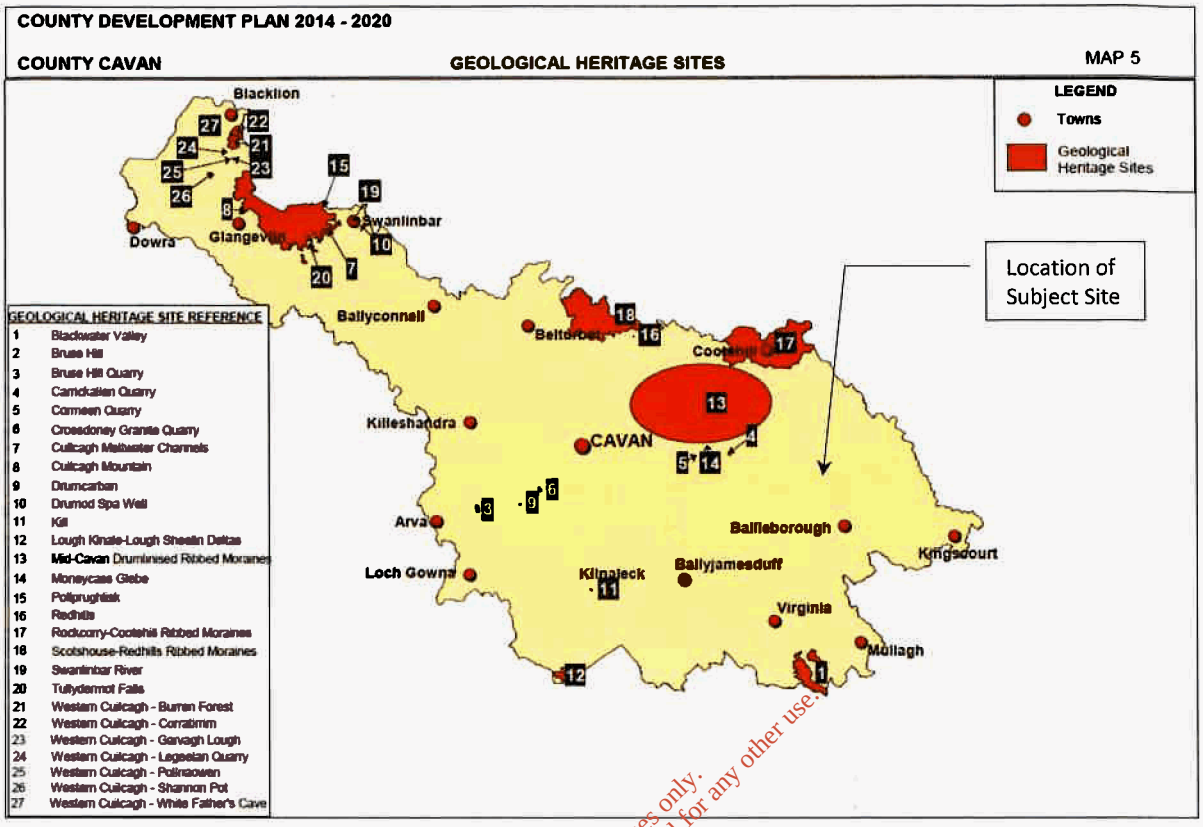


Fig. 12 Geological Heritage Sites Map (Source www.cavancoco.ie)

- ***4(3)(5)*Effect on Water**

Adverse effect on *ground water* from the proposed development should be nil, as there will be no process discharge to ground and minimal risk of accidental leakage or spillage of polluting liquid on the site. The proposed development, as per the previously approved poultry farming activities, 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. It will be managed as a 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 the 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 proposed water supply on the farm is from the group scheme / on-farm well, which will also serve the proposed development.

According to the Geological Survey of Ireland the aquifer classification appropriate to the site and the surrounding area is a Poor Aquifer (Pl) - Bedrock which is Generally Un-Productive except for Local Zones, with a vulnerability rating of Extreme / Outcrop (E/X) vulnerability, for the proposed development site. As the proposed development, will operate on a dry manure basis, whereby the manure will be removed from the houses after each batch, there is minimal risk to ground water supplies in the area of the site.

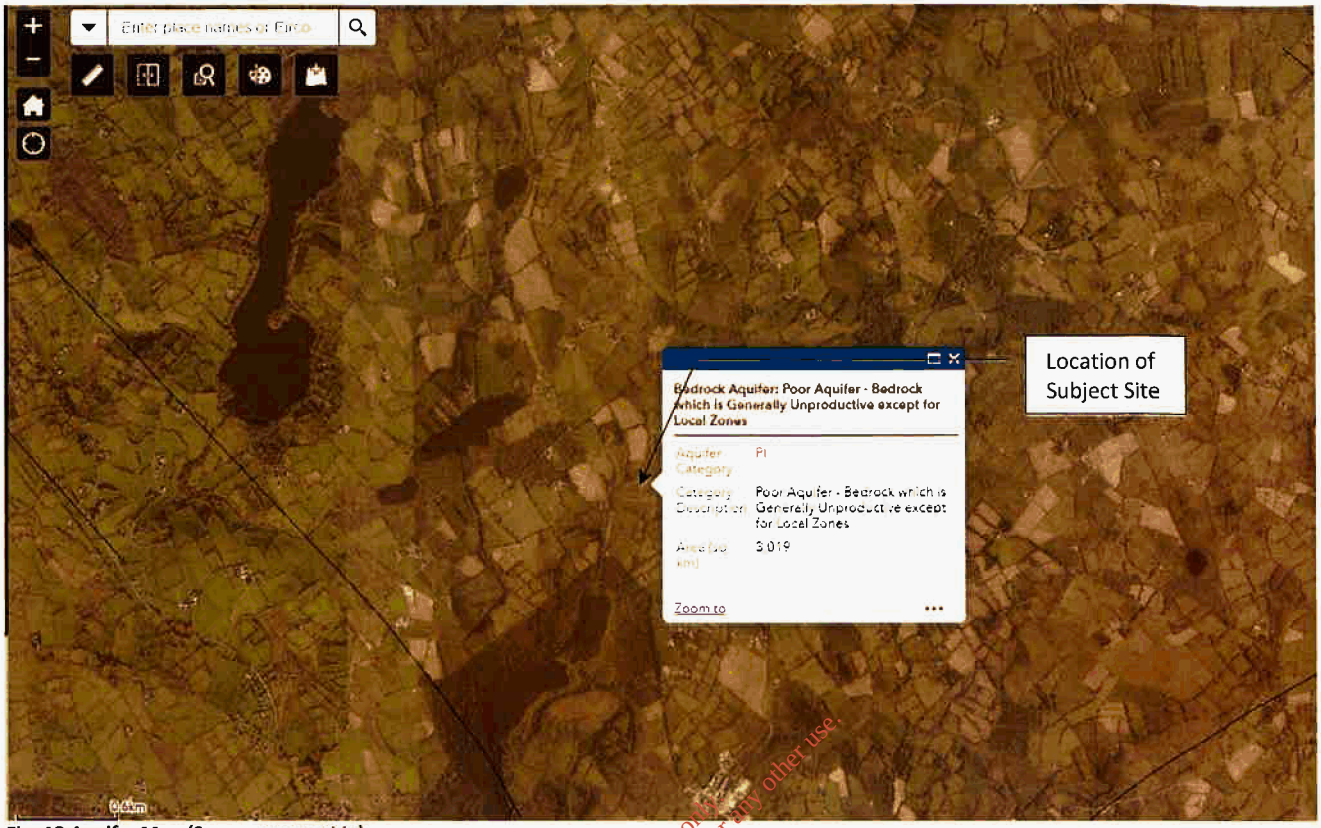


Fig. 13 Aquifer Map (Source www.gsi.ie)

Fig. 14 Aquifer Vulnerability Map (Source www.gsi.ie)

Adverse effect on *surface water* from the proposed development should be nil, as there will be no process discharge to surface water and minimal risk of accidental leakage or spillage of polluting liquid on the site. The only discharge from the site to surface waters will be the discharge of rainwater from roofs and clean yards to field drainage, which flows towards the adjacent watercourse, a tributary of the Castle Lough.

There are no Natura 2000 sites within c. 16 km of this proposed development.

The application site lies within the Boyne Hydrometric Area and Catchment and the Blackwater (Kells) Sub-Catchment and Sub-Basin. There is a stream flowing along the western boundary of the application site. This stream flows south, entering Castle Lough approximately 500m downstream of the site. The River Blackwater emerges from Castle Lough.

The EPA have defined the ecological status of the watercourses that are close to the application site as being of poor ecological status. The River Blackwater at points upstream and downstream of Castle Lough is of poor status, and it improves to moderate status further downstream. The status of Castle Lough has not been defined. Under the requirements of the Water Framework Directive in Ireland, good status must be achieved in all water bodies within a specified time frame.

In order to avoid any reductions in water quality in the area surrounding the proposed development and in order to protect designated sites and species, a number of mitigation measures have been planned for that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife.

There closest Natura 2000 site, Killyconny Bog SPA is c. 16.4 Km of this proposed development. Please refer to the Appropriate Assessment screening report contained in Appendix No. 18

In order to avoid any reductions in water quality in the area surrounding the proposed development and in order to protect designated sites and species, a number of mitigation measures have been planned for that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife.

Surface Water Protection Mitigation Measures

- It is vital that there is no deterioration in water quality in the watercourses in the vicinity of the development. 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 settlement areas/filter channels.

- Fuels, oils, greases and hydraulic fluids will be stored in bunded areas 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 local watercourses.

- There will be a small 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 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 area should be properly bunded with a bund capacity of at least 110% or 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.

- ***4(3)(6)Effect 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 5-7 times/annum*, depending on the free range or traditional farming system.

A number of management practices will be implemented on site so as to minimise potential odour emissions from the existing and proposed developments,

- 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 off 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 a significant distance away from any Natura 2000 sites and emissions (incl. gaseous emissions) from the existing/proposed development(s) are unlikely to adversely impact on same and/or on any other sensitive areas.

- ***4(3)(7) Effect 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. 14. Wind direction at the site is critical to odour movements and rainfall is critical factor in the application of manure. The prevailing wind in the Clones area is from the south-west. Rainfall in the customer 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. N_2O emissions can be divided into three areas,

- Direct from agricultural soils and from agricultural farming 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 or 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, as amended, 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.

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, as amended and where possible incorporated/ploughed into the soil as soon as practicable after application.

All practicable steps, such as landscaping, management routines 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 residences will ensure no effect on human beings. The existing poultry farm operated by the applicant at Drumeague has operated with no adverse environmental impact.

This development will have no significant adverse effect on climate.

- ***4(3)(8)Effect on Visual Aspects and Landscape***

Cavan Co. Co. have not prepared a Landscape Character Assessment, however the following categories have been included in the Cavan Development Plan 2014-2020 and may form part of a landscape character assessment in the future.

There are five main Landscape Character Areas within the County. These areas have been chosen mainly due to their physical geological and geomorphological features which make them distinctive in the County.

1. Cuilcagh-Anierin Uplands of West Cavan;
2. The Lakelands;
3. Lake Catchments of South Cavan;
4. Drumlin Belt and Uplands of East Cavan
5. Highlands of East Cavan.

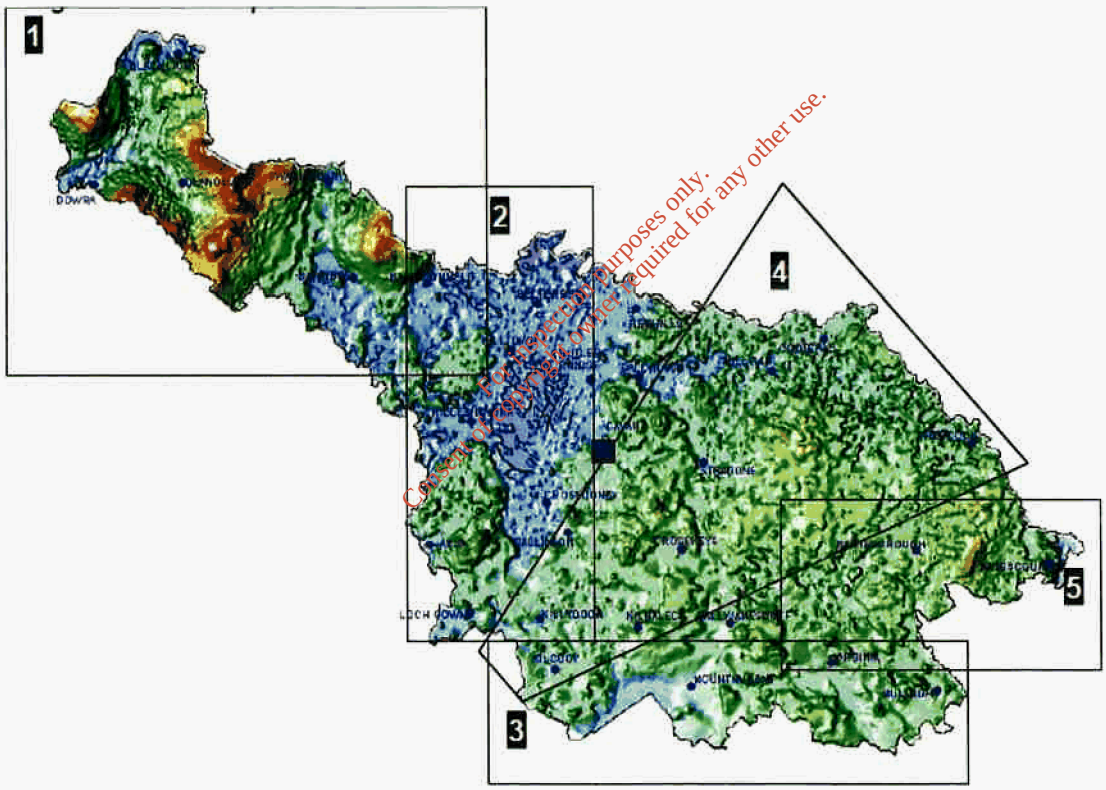


Fig. 15 Landscape Character Areas.

While no specific boundary maps are provided in relation to these areas, as can be seen from the above depiction that there is overlap between these areas.

The site of the proposed development is located in area;

Area 5: Highlands of East Cavan

General Description of Area

This region consists of drumlins and highlands. Bailieborough and Kingscourt are the main towns in this region. Much of the area is made up of shales and sandstones, but immediately to the east of Kingscourt town are a Half Graben and an escarpment which dissects the high drumlin area to the lowland drumlins in a limestone area. This is a clear indication of a landscape forged by the movement of ice across the county in the last ice-age.

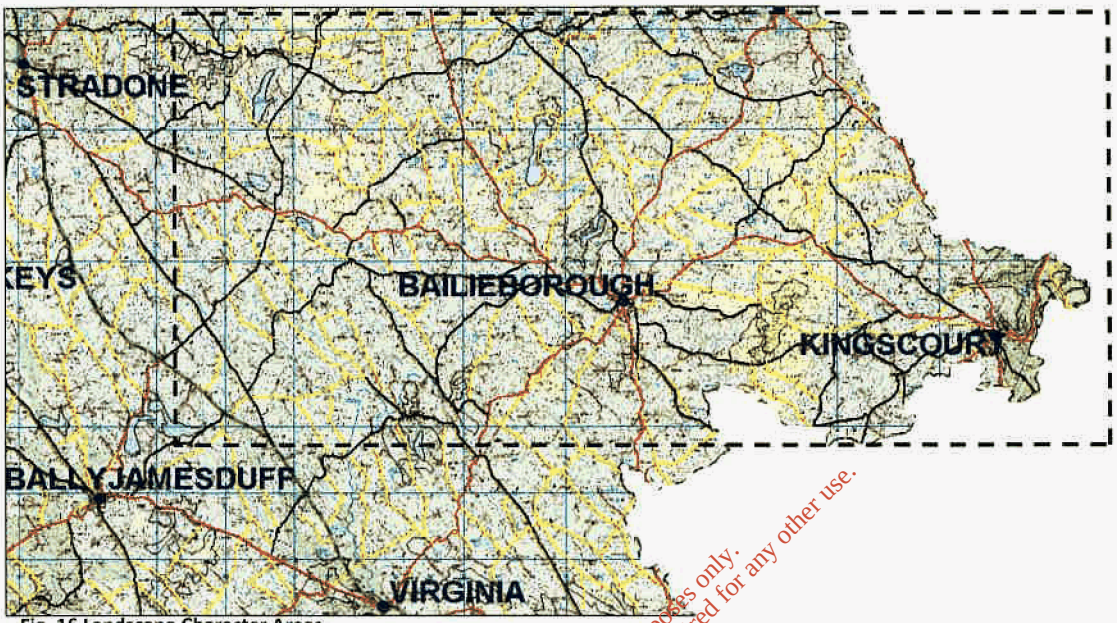


Fig. 16 Landscape Character Areas.

Lough an Lea Mountain is an area of upland hill country between Bailieborough and Kingscourt with open unenclosed landscape above approximately 240 metres and is used for hill walking recreation.

This site of the proposed development is located adjacent to a recently approved poultry house that is currently in construction. The poultry farm will be located well away from and/or unlikely to adversely impact on any sensitive areas. This will ensure that there will be no visual impact on the local environment from the proposed development.

This site of the approved and currently proposed developments forms part of an overall farmed area of c. 45 Hectares including the site of the existing/proposed development. This site is located in the town land of Liagar and Corglass, in east Co. Cavan, c. 3.1 km's north of Bailieboro. The existing/proposed site is, and will, be accessed via the existing access route and site entrance serving the existing landholding and will serve the previously approved poultry house upon completion of same. The site of the proposed development will be well setback from the public road, integrated with the previously approved development, will ensure that the proposed development will not have an adverse visual impact, and will not require significant excavation/development works.

The nature of the proposed development, and its location will ensure that there will be no adverse impact on the local environment/landscape from the proposed development. The site is not located near to or likely to affect any Scenic Route/views, Lakeside or other amenity areas, N.H.A.'s, S.A.C.'s, S.P.A's or monuments/places of Archaeological interest as listed in the

Cavan County Development Plan 2014 - 2020. Please refer to Appendix No. 11 for additional detail in relation to these areas.

The proposed development is typical of the type of Agricultural farm buildings already approved for this site and within this area of Co. Cavan and will have limited impact on the character of the surrounding landscape. The proposed development represents an extension to an existing farm yard previously approved by Cavan Co. Co. for a poultry development and so will have limited impact on the character of the surrounding landscape. The proposed site being integrated into the landholding, the landscape, and, the approved poultry farmyard will not be visually obtrusive. It is not considered that the proposed development will have significant impacts on the landscape character of this area. The existing vegetation will help to soften any visual impacts, and, additional landscaping maybe added where considered appropriate.

- *4(3)(9)Effect 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 was observed as part of previous developments on this site. In addition, there is no visual evidence of any archaeological feature on the lands adjoining the site. There are no recorded sites within c. 0.2 km of the currently proposed poultry house site as per the Archaeological Survey database. The closest recorded protected structure is a Ringfort / rath located c. 235 m east of the proposed development site, with a second such site located c. 400 m to the west of the development site. See Description below;

Record Number:
CV028-004----

Classification:
Ringfort - rath

Scheduled for Protection:
1

Description:
Marked 'Fort' on OS Fair Plan and 1836 ed. Not marked on subsequent eds. Probably the site of a rath. Situated on the NE slope of a drumlin hill. Not visible at ground level. The above description is derived from the published 'Archaeological Inventory of County Cavan' (Dublin: Stationery Office, 1995). In certain instances the entries have been revised and updated in the light of recent research. Date of upload/revision: 22 December 2008

Record Number:
CV028-038----

Classification:
Ringfort - rath

Scheduled for Protection:
1

Description:
Marked 'Fort' on the OS 1836 ed. and 'Site of on the 1876 ed. Partially levelled. Raised circular area (int. diam. c. 38m) enclosed by an earthen bank and a wide fosse, both well preserved from NW-N-NE and elsewhere either levelled or replaced by field boundaries. Original entrance not recognisable. The above description is derived from the published 'Archaeological Inventory of County Cavan' (Dublin: Stationery Office, 1995). In certain instances the entries have been revised and updated in the light of recent research. Date of upload/revision: 22 December 2008
Zoom to

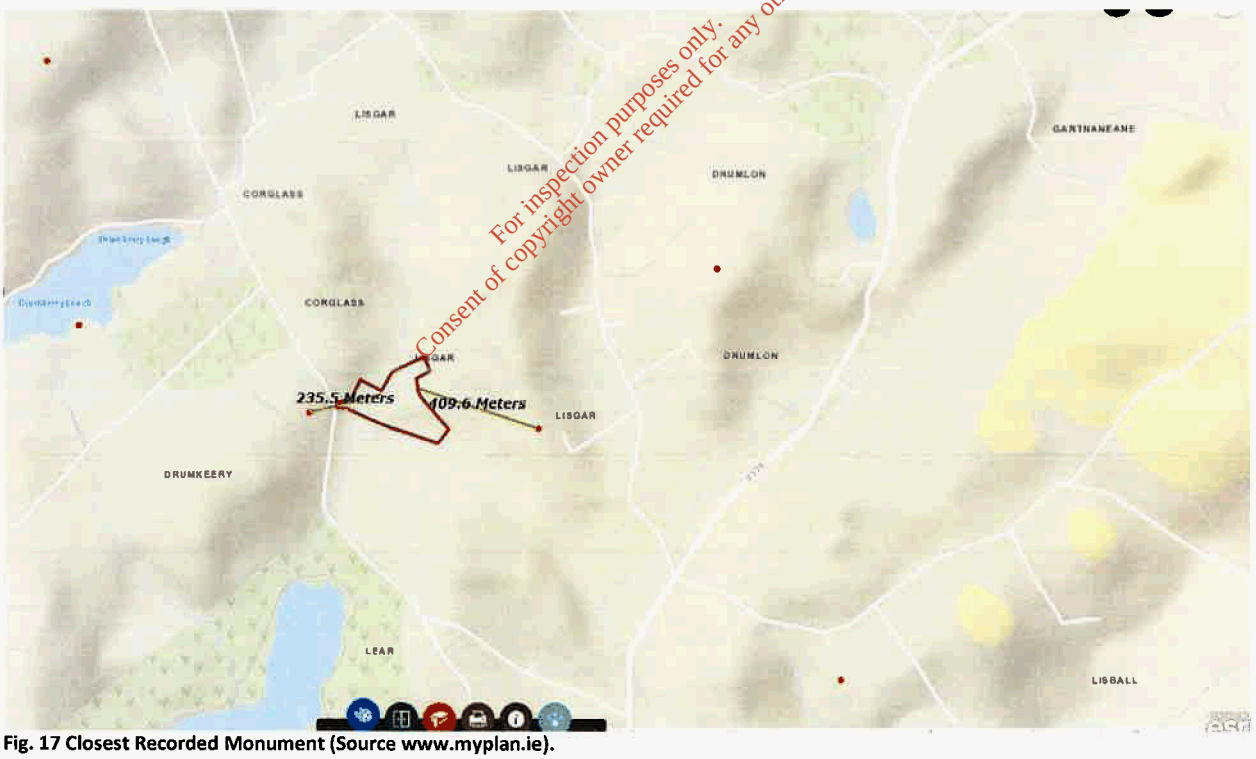


Fig. 17 Closest Recorded Monument (Source www.myplan.ie).

As any such sites are located a considerable distance from the proposed development the current proposal will not impact on these recorded sites in any way.

The site of the proposed development is intensively managed agricultural lands. Over the generations this landscape has changed with the removal of field boundaries and the re-contouring of the lands for productive agricultural purposes, resulting in significant disturbance to the proposed development area.

As a result it has concluded that there will be;

- No direct predicted impacts by the proposed development on any structures or features of Archaeological Heritage interest/potential.
- No direct predicted impacts by the proposed development on any Cultural Heritage features.
- No Construction Phase, Operational Phase, Residual and/or Cumulative impacts arising from the proposed development.

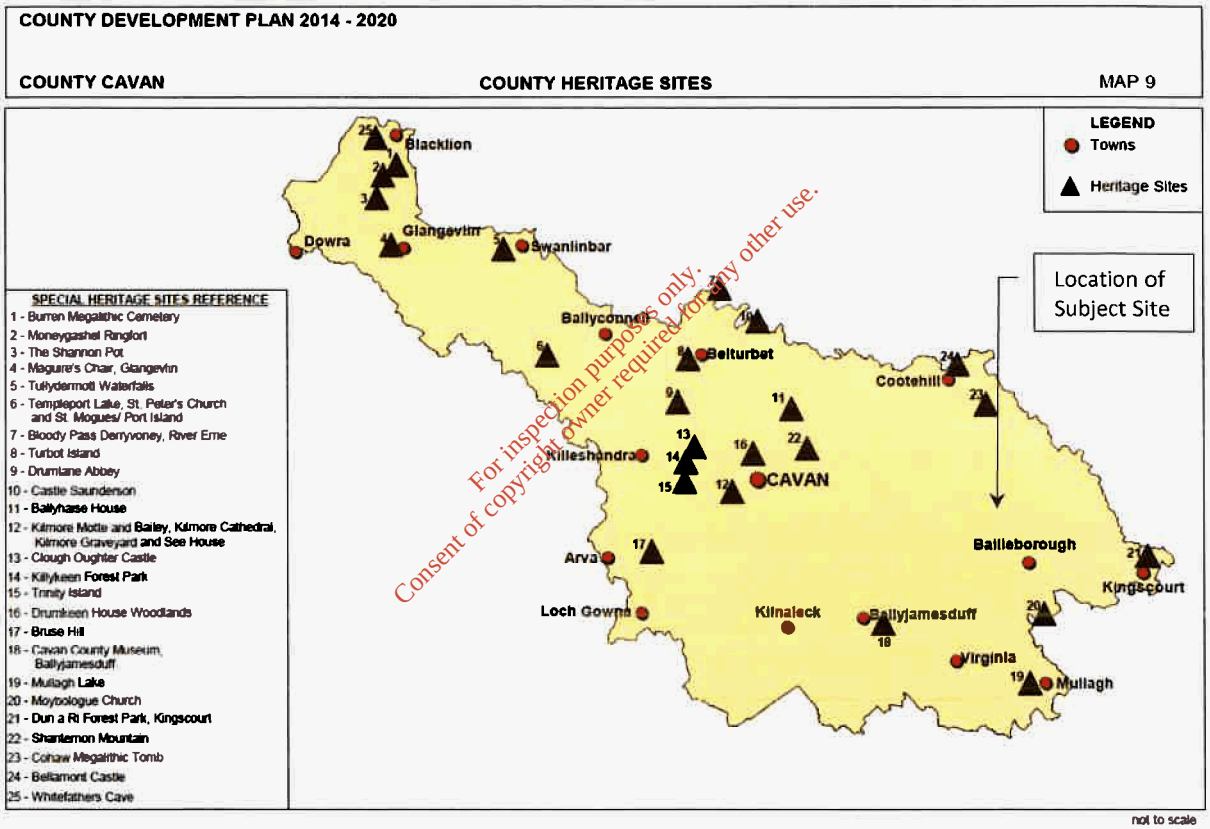


Fig. 18 County Heritage Sites.

- ***4(3)(10)Effect 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. The potential impact of the proposed development on archaeology / cultural assets has been discussed previously.

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

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

The proposed development is to be completed on agricultural lands adjacent to, a previously approved poultry farm site that is currently in construction and surrounded by agricultural farmland. The proposed development will not interact with any lands outside the family landholding, except for the production of a valuable organic fertiliser which may be utilized by farmers as a replacement for chemical fertiliser. The operation of the proposed development will be co-ordinated and integrated with the previously approved poultry enterprise when constructed, where possible to streamline activities and minimize any potential impacts.

- ***(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 dwelling's within c. 200 m of the previously approved/currently proposed poultry houses. 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, poultry farming is an approved activity on the site and this is a traditional farming activity in Co. Cavan.

- ***(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 and associated works will be developed; however there will be no adverse impact outside of the development area, and this area is already a previously approved poultry farmyard and/or immediately adjacent to same.

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 authorized 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.

4 (4) Description of likely significant effects of the proposed development arising from:-

(i) 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 approved site, and location adjacent to the previously approved, but yet to be constructed, poultry house and ancillary structures. 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, the operational traffic associated with same would be:

Table 4.4.1 Traffic projections

	Existing <40,000 Bird Free Range (as approved	Proposed 85,000 bird free range	Proposed 100,000 Bird traditional
Feed	40	70	80
Manure transport	10	25	28
Day old deliveries (1 per cycle)	5	5	7
Transport of Birds off-site	25	50	84
gas and shavings deliveries (one each per batch)	10	10	14
Weekly Waste Collection	52	52	52
Annual Total	142	212	265
Weekly	2.73	4.07	5.1

In addition to the above will be traffic associated with inspections, vet, catchers, and traffic associated with washing and cleaning the houses etc., which will only increase marginally over the currently proposed development, when operating as the free range system, as a significant proportion of these traffic movements will occur regardless of scale. Same will increase proportionately for the traditional farming system in line with the increase in the number of cycles from 5-7.

Traffic to and from the site will be minimised by optimising load sizes. This traffic movement will not adversely impact on the local road network which will be more than adequate to accommodate same. Traffic flows will use the existing route and site entrance. The site is well serviced by the existing road infrastructure and therefore any proposed alteration in traffic will not have an adverse impact on the local area.

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 bio-diversity outside of the site area, as same is a previously approved poultry farm site, and/or on intensively managed grassland. 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 current supply, during the construction phase and once completed there will be additional water used on the farm as a result of this proposed development. The main resource to be consumed would be poultry feed, which is classifiable as a natural resource that is a renewable resource. The consumption of feed and water will be proportionate to the sock numbers on the farm.

(ii) The emission of pollutants (noise, vibration, light, heat, radiation etc.,)

Clean storm water will be discharged to the local watercourse via the discharge points as indicated in the proposed site plan. 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 stream 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 an experienced contractor. Accordingly, it is expected that there should not be any significant emissions of 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 a significant adverse environmental impact.

The additional organic fertiliser/poultry manure to be produced will be utilised as a resource ingredient in the mushroom compost industry and/or as an organic fertiliser, and will be removed from the site by an experienced contractor. All soiled water to be allocated to farmland in accordance with of SI 605 of 2017, as amended.

(iii) The creation of nuisance

The proposed development, 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 Cavan Co. Co. requirements, is not expected to create any significant nuisance.

(iv) The elimination and/or disposal/recovery of waste/by-products

The net increase in the volumes of waste/by-product 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 and practices including and 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 power 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. Similarly, with regard to the hazardous waste in the form of spent fluorescent tubes. The volumes are small and already minimised. While the applicant can be forever conscious of the Reduce, Reuse and Recycle principle in relation to all waste, there is relatively little that can be done to effect significant further gains in this proposed development.

(v) the risks 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 due to the innate nature of the farming system and activities on-site. There are 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.

(vi) 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 account in deciding on the method of disposal to be used for slaughtered animals,

1) Preventing the spread of the disease/virus, and,
2) Mininising 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 the Marine in consultation with the National Expert Epidemiological Group. The preferred option for the disposal of carcasses from this farm site is rendering.

(vii) 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.

The fact that the farmers are allocating organic fertiliser in accordance with the provisions of S.I. 605 of 2017, as amended, 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 within 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.

4(5) The forecasting methods used to assess the effects on the environment.

Forecasting relies heavily on the accumulated experiences of current operations on the applicant's existing site at Drumeague, 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 successfully managed the existing poultry farm at Drumeague to date, and has had no incidents with regard to the effect of this existing enterprise on the local environment.

Taking into account that poultry farming is an established practice on this farm and intensive farming is a widespread farming activity in Co. Cavan, and, that this proposed development (previously approved and currently proposed) will comply with the Nitrates directive, EPA Licence and other legislative and producer requirements, the applicant is fully confident that the proposed development will have no significant adverse effect on the local environment.

4(6) Cumulative And Transboundary Effects

This Poultry farm is located in County Cavan, a county well recognised for its intensive agriculture sector. It is anticipated that the proposed development at this site will not lead to a Transboundary effect due to the distance of the proposed development from any international boundary (>c. 20 Km from border with Northern Ireland) and the fact that in the main all wastes/by-products will be utilised/disposed of/recovered within the country.

While total bird numbers farmed by the applicant on this site will increase to c. 85,000 (free range) or 100,000 birds (traditional farming system), it is not anticipated that this will have a significant adverse cumulative impact, due to its location integrated into the approved poultry farm site and wider landscape, in an agricultural area, the fact that all manure is to be moved off site by an approved and registered contractor and appropriate measures are in place to address wastes arising on the farm. The previously approved / currently proposed poultry farm will operate independently of any other poultry farm in the area, including that operated by the applicant at Drumeague.

The proposed development will not have a cumulative adverse impact on the local environment. Poultry farming is a traditional and widespread farming activity in the North East region and it has been demonstrated by the applicant that the site is not located close to and/or likely to adversely impact on any sensitive feature/location either independently or cumulatively with other poultry houses in the area. The farming activities that are approved / proposed on-site (and by other poultry farms in the area) are done so with no significant adverse impact on the local environment and in compliance with S.I. 605 of 2017, as amended. Due to the fact that all manure is to be moved off site and appropriate measures 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 Cavan area when assessed individually and/or cumulatively with other such developments in this area.

4 (7) Inter-relationships

EIA requirements derive from Council Directive 85/337/EEC (as amended by Directives 97/11/EC, 2003/35/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.

As a requirement of the aforementioned directives and specific legislation implementing same, not only are the individual significant impacts required to be considered, but so must the inter-relationship between these factors be identified and assessed.

Part II (Second Schedule) of the Regulations requires that the interactions between human health / population, Bio-diversity (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 areas in which significant interactions occur a matrix has been prepared, see figure 4.1 below.

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

Figure 4.1 Matrix Indicating Inter-relationships between EIA Factors

	Land / Soil	Water	Air & Climate / Climate Change	Landscape & Visual	Noise	Traffic / Roads	Bio-diversity (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
Bio-diversity (Flora & 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

4 (7) (i)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 house will provide for an additional supply of poultry manure which is a valuable fertiliser used by customer farmers to offset the cost of purchasing chemical fertiliser, and as a resourse ingredient in the compost industry. The supply of organic manure will result in a financial gain to the recipient farmers and therefore a net positive 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 endeavor in the following factors Land / Soil, water, air & Climate / Climate Change, landscape & visual, Bio-diversity (Flora and Fauna) and cultural heritage. Improvements in Land / Soil can be achieved through the addition of organic fertilizer, improvements in water through improved management and separation of storm and soiled waters, improvements in air through better manure management processes, improvement in Bio-diversity (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.

Improvements in Climate/Climate change arise out of the more efficient farming system/lower emissions compared to other forms of animal husbandry/production. The impact on human health / population will ultimately result in improvements to material assets.

4 (7) (ii) 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 Bio-diversity (Flora and Fauna) –** The organic fertilizer will have a positive overall impact on Land / Soil adding additional nutrients. However there is potential for leaching of these nutrients to water. This threat has been mitigated as all organic manure is to be allocated to customer farmers for use in accordance with S.I. 605 of 2017, as amended and excessive application of this organic fertilizer will not occur.

  The positive impact on Land / Soils in the customer farmland areas will potentially see a change in landscape through the improvement in field pastures, this may be viewed as a slightly positive impact overall and any changes will be minimal through compliance with S.I. 605 of 2017, as amended, as this organic fertiliser will be used to replace chemical fertiliser. The changes in Land / Soil may result in a reduction in diversity of Bio-diversity (Flora and Fauna) in receiving lands. However all lands proposed for receipt of organic fertilizer will comprise productive agricultural lands for the production of crops or improved grassland and organic manure will not be applied to areas of scrub or other habitats.

- **Impacts of Water on Bio-diversity (Flora and Fauna) –** The organic manure generated together with any soiled water on site has the potential to negatively impact on water. A reduction in water quality in the area would have an effect on both local Bio-diversity (Flora and Fauna) and Bio-diversity (Flora and Fauna) in the wider river catchment area. This potential threat has been mitigated through the proposal to allocate all organic fertilizer for use in accordance with S.I. 605 of 2017, as amended. This is further mitigated through the provision of an appropriate on site storm water drainage system. These mitigating measures are sufficient to ensure that there is no negative impact on Bio-diversity (Flora and Fauna) as a result of its relationship with water.

- **Impacts of Air & Climate / Climate Change on Bio-diversity (Flora and Fauna) and Human health / population –** There is a potential threat to Bio-diversity (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 Bio-diversity (Flora and Fauna) and in particular on human health / population, however this is mitigated by the fact that the proposed development location c. 200 m 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.

4 (7) (iii) Potential Impacts and Mitigation Measures

This section presents the significance of potential impacts following the implementation of mitigation measures. The 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 forecasting 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 significant consequences.
	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 alters 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 and Context of Effects	**Extent**	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
	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 show 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. This 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, as per the existing activities carried out by the applicant.

	Category	Potential Environmental Issues/Effects	Potential Impact ~ Site	Potential Impact ~ Customer Lands	Duration	Mitigation	Residual Impact
Natural Environment	Terrestrial						
	Bio-diversity (Flora and Fauna)	Destruction/loss of habitats.	Neutral	Neutral	Long-term	Existing intensively managed agricultural land of no significant ecological importance. Organic fertilizer to replace chemical fertilizer in accordance with S.I. 605 of 2017, as amended, no impact. Integration with approved 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 / Buffer Zones / Codes of Good Practice applied (S.I. 605 of 2017, as amended, Customer Farmlands).	Slight
	Landscape	Visual impact	Negative	Neutral	Long-term	Site integrated with previously approved structures and into landscape. Finished floor level integrated with previously approved plans.	Slight
	Archaeology	Disturbance of archaeological finds	Neutral	Neutral	Long-term	No archaeological finds within this site. 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. Organic manure will replace inorganic fertilisers eliminating manufacturing / transport energy use. Integration with previously approved farming activities.	None

	Category	Potential Environmental Issues/Effects	Potential Impact ~ Site	Potential Impact ~ Customer Lands	Duration	Mitigation	Residual Impact
Natural Environment	Terrestrial						
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		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 / Buffer Zones / Codes of Good Practice applied (S.I. 605 of 2017, as amended, Customer Farmlands).	Slight
	Landscape	Visual impact	Negative	Neutral	Long-term	Site integrated with previously approved structures and into landscape. Finished floor level integrated with previously approved plans.	Slight
	Archaeology	Disturbance of archaeological finds	Neutral	Neutral	Long-term	No archaeological finds within this site. 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. Organic manure will replace inorganic fertilisers eliminating manufacturing / transport energy use. Integration with previously approved farming activities.	None

4 (8) 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 farm developments, and similar to that currently approved at this site and carried out by the applicant elsewhere, 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. 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 a result of the first hand experience gained in the existing development. As stated previously, this planning application and Environmental Impact Assessment Report, relate to the proposed development of 1 No. poultry house on a previously approved poultry farm site plus all associated site works and ancillary structures, and facilitating an overall increase to 85,000 birds (free range) or 100,000 birds (traditional farming system), on the farm.

The operation of the previously approved development in conjunction with the currently proposed development will be carried out in accordance with the requirements of Cavan Co. Co., The E.P.A., The Department of Agriculture, Food and Marine and Bord Bia to achieve maximum efficiency, flock performance and environmental standards

5 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 where possible, 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 drainage system to properly collect and discharge to field drainage all clean rainwater from roofs and clean surfaces, as described in Appendix No. 3.

(iv) Provision of soiled water drains to properly collect any effluent or soiled water and divert it to the nearest soiled water tank.

(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. 605 of 2017, as amended.

(vi) All construction waste to be managed in an appropriate manner.

(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.

College proteins are an authorised contractor who regularly removes these carcasses, and any other such material to an authorised Animal By-Products plant at Nobber, Co. Meath, in compliance with existing requirements. Correspondence in this regard is included hereafter, in Appendix No. 6. Ensure collection of animal tissue from the site is in appropriate watertight and covered containers, and timely 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 to ensure 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.

6. ENVIRONMENTAL MANAGEMENT PROGRAMME

6.1. 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 requirements under environmental legislation such as S.I. 605 of 2017, as amended. This 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 complied with in relation to this Environment Management Programme.

6.2. 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, as amended 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, as amended,
- 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 The Marine, and submission of all records to The Department of Agriculture, Food and The Marine as required.]

6.3. Environmental Monitoring Programme

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

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

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

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

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

- Storm water emission points to be visually inspected 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. The EPA license required for this farm will have specific requirements/conditions pertaining to odour/noise and dust to be complied with.

7 Summary

This currently proposed development involving the construction of 1 No. poultry house together with ancillary facilities, and the changes to the operational capacity of the farm as proposed, 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 assess the potential impact of the proposed development and any potential cumulative impact with the applicant's previously approved development and/or other farms (incl. poultry farms)/developments in the area and provide the planning authority with the necessary information to make a decision on this planning application. The E.I.A.R. will also be submitted to the E.P.A. as part of the E.P.A. Licence application to be submitted to the Agency.

The proposed development as outlined will make a significant positive contribution to the rural economy of Co. Cavan 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 environmental effects. The granting of permission to the proposed development would strongly accord with the provisions of the County Development Plan and will provide a significant boost to the economy of Co. Cavan. The proposed development will be constructed and operated in accordance with the details laid down in this E.I.A.R. and will adhere to conditions imposed as part of any grant of planning permission and E.P.A. Licence for this farm.

Signed:

Paraic Fay
BAgrSc

4/3/2021
Date

CLW Environmental Planners
The Mews,
23 Farnham St.,
Cavan Town,
Co. Cavan.

Tel: 049-4371451
Fax: 049-4371447
Email: info@clw.ie

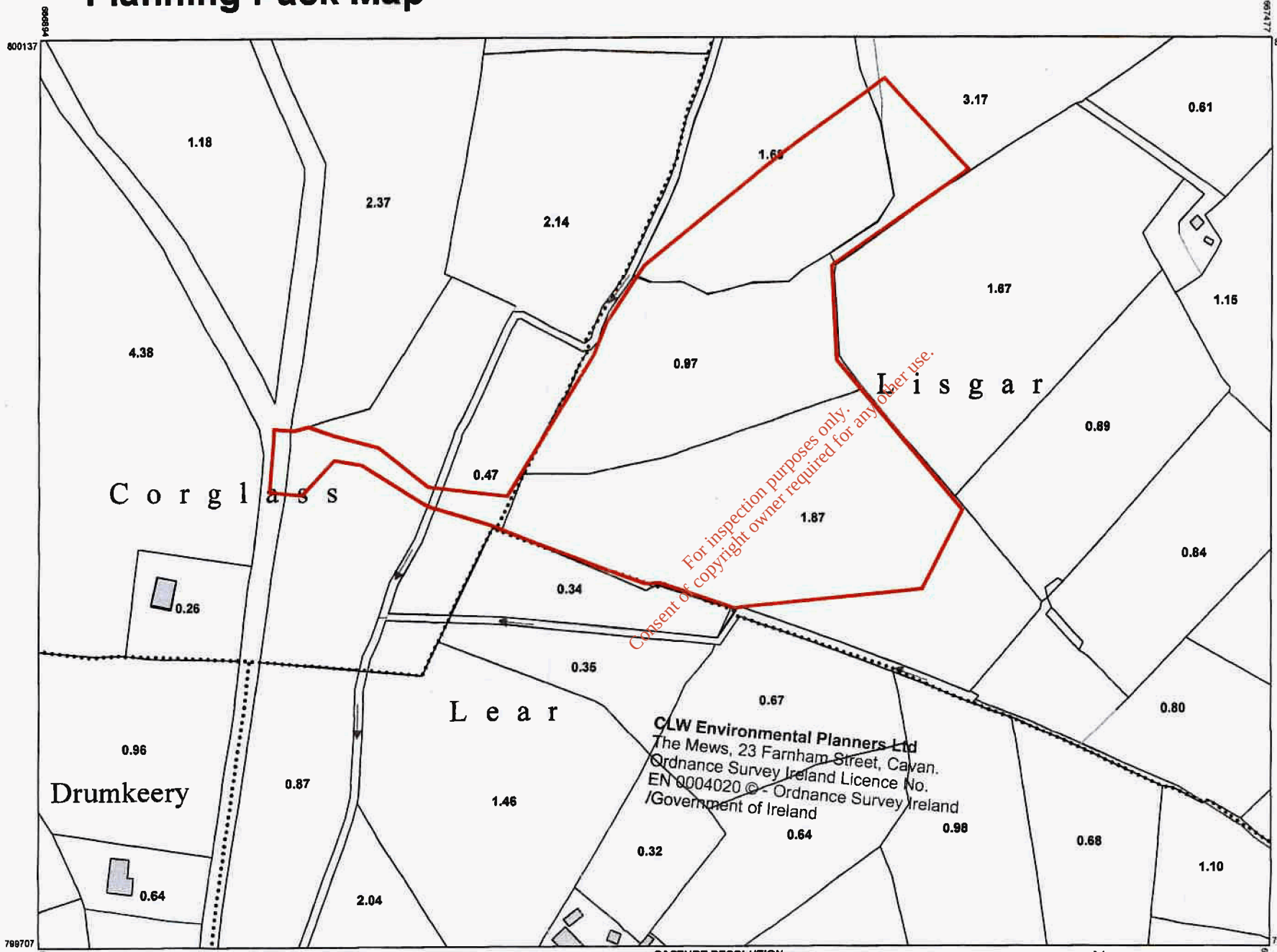
Appendices

Appendix No. 12	~	***Extract from General Soil Map of Ireland.***
Appendix No. 13	~	***Local Water Quality Data***
Appendix No. 14	~	***Met Data***
Appendix No. 15	~	***Dept. of Agriculture – Minimum Specification for Screening belts for Farmyards and Farm Buildings – S 135***
Appendix No. 16	~	
Appendix No. 17	~	
Appendix No. 18	~	***Appropriate Assessment Screening Report***
Appendix No. 19	~	***European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2017 – S.I. 605 of 2017***

Appendix No. 1

Site Location Map

Planning Pack Map



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CAPTURE RESOLUTION:
The map objects are only accurate to the resolution at which they were captured.
Output scale is not indicative of data capture scale.
Further information is available at:
http://www.osi.ie; search 'Capture Resolution'

Ordnance Survey Ireland
National Mapping Agency

CENTRE COORDINATES:
ITM 667186,799922

PUBLISHED: 26/08/2020
ORDER NO.: 50137487_1

MAP SERIES: 1:5,000
MAP SHEETS: 1822

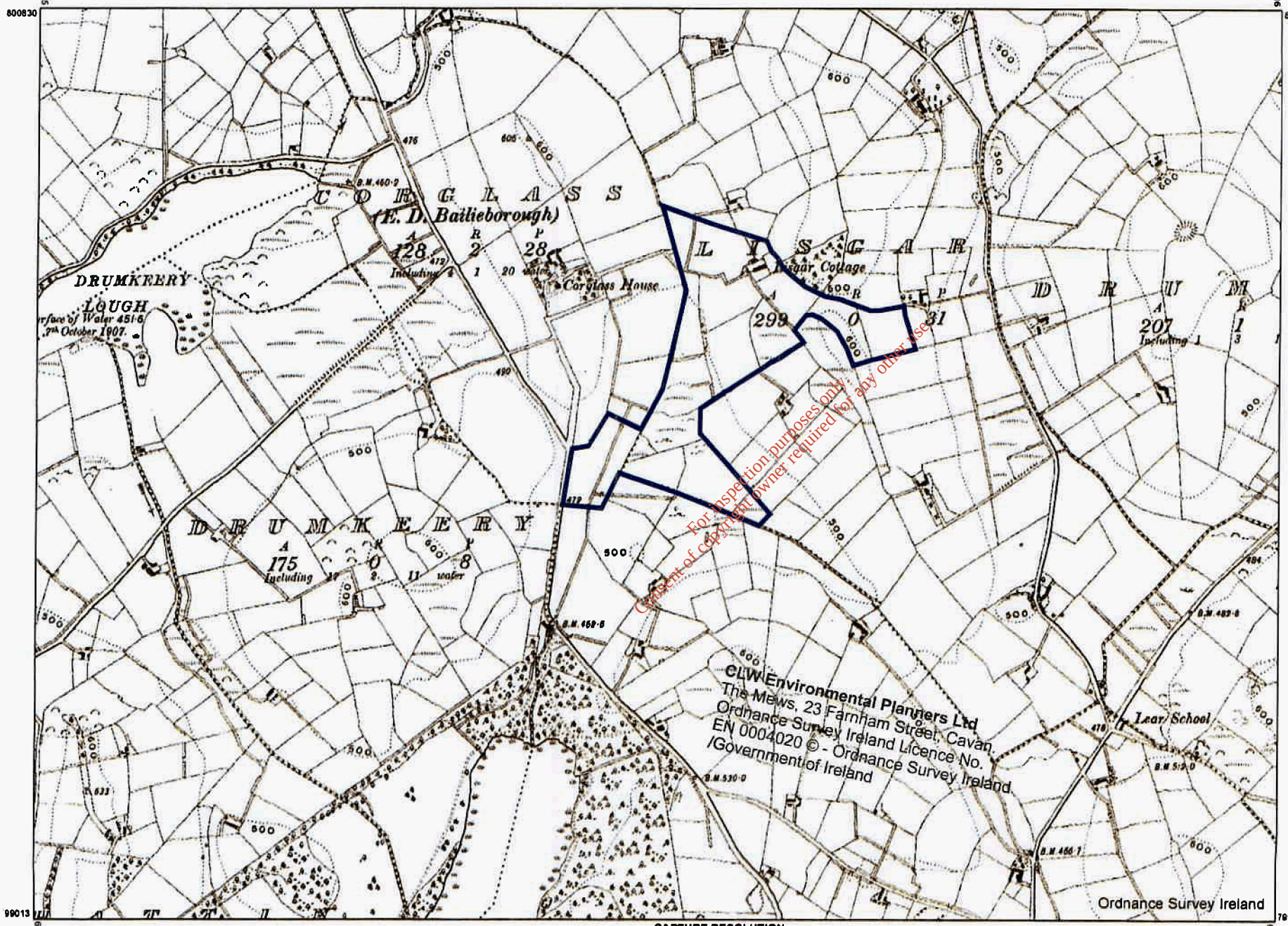
COMPILED AND PUBLISHED BY:
Ordnance Survey Ireland,
Phoenix Park,
Dublin 8,
Ireland.

The representation on this map of a road, track or footpath is not evidence of the existence of a right of way.

Ordnance Survey maps never show legal property boundaries, nor do they show ownership of physical features.

LEGEND:
http://www.osi.ie;
search 'Large Scale Legend'

Site Location Map



659555 684416

800830 800830

99013 799013

0 110 220 330 440 metres

0 200 400 600 800 1,000 Feet

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CAPTURE RESOLUTION:
The map objects are only accurate to the resolution at which they were captured.
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http://www.osi.ie; search 'Capture Resolution'

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Ordnance Survey Ireland
National Mapping Agency

CENTRE COORDINATES:
ITM 667186,799922

PUBLISHED: 26/08/2020
ORDER NO.: 50137487_1

MAP SERIES: 6 Inch Raster
MAP SHEETS: CN028

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Ordnance Survey Ireland,
Phoenix Park,
Dublin 8,
Ireland.

The representation on this map of a road, track or footpath is not evidence of the existence of a right of way.

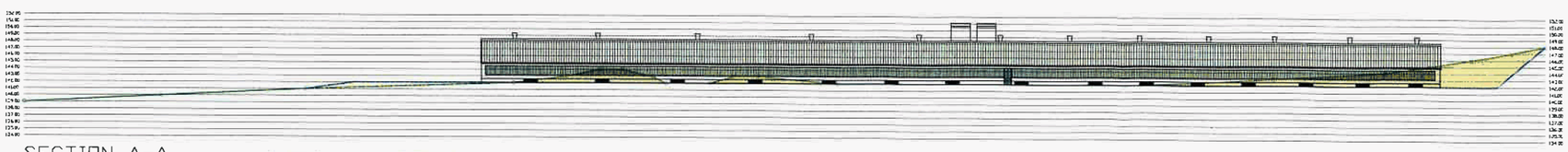
Ordnance Survey maps never show legal property boundaries, nor do they show ownership of physical features.

LEGEND:
http://www.osi.ie;
search 'Large Scale Legend'

Appendix No. 2

Site Layout
(Not to scale)

Location of proposed and existing developments



SECTION A-A
Scale: 1/400

FILL CUT

NOTES:
1. All levels are relative to Ordnance Datum Malin Head
2. 50m sq grid relative to Irish Transverse Mercator Co-ordinate reference system
3. Contours are at .25m intervals

LINE TYPE LEGEND

	Box		Electricity Box
	Downpipe		Fire Hydrant
	Electricity Pole		Flire Station
	Gate		Inspection Cover
	Gully		Invert Level
	Gas Valve		Lamp Post
	Gas Cover		Manhole
	Finished Floor Level		Post
	Electricity Cover		Pillar
	Manhole Cover		Telegraph pole
	Ridge		Telecom Cover
	Spot Level		Tree
	Sign		Water Meter

LINE TYPE LEGEND

	Boundary		Buffalo Change
	Building		Step
	Bank Top		Vegetation Line
	Bank Bottom		Verge
	Channel		Telecom Cover
	Fence		Wall
	Kerb		Railing
	Path		Verge
	Overhead Electricity Line		Road Edge

Proposed Poultry House

Proposed Concrete Apron

Neighbouring Sheds/Garages

Site Boundary

SITE Area = 3.19 Hectares or 7.9 Acres

N NW NE W E SW SE S

Storm water to existing water course

1.2 HA

37452

23642

10022

28765

0.3598 HA

0.598 HA

2.05 HA

Soakpit

FREE RANGE BROILER HOUSE FFL=142.00

Two Way Sluice Valve

8000

B

Gradient to exit mouth entrance to be not greater than 10 in 100 sloping away from public road. For a distance of 6 meters from the edge of the existing public road.

Sight lines of 80 Meters provided from a point 3 meters back from road edge at a height of between 105 meters and 2 meters above ground level to a point between 250mm and 2 meters in each direction achievable

Electricity Pole to be repositioned behind sight lines.

Structural overlay to include 100mm AC 20 base course & 50mm HRA

Existing open drains to be piped with a minimum 600mm to ensure flow path of existing live water system is not impeded

Proposed road gully

Proposed timber rail fence

Proposed road gully

1 = Poultry House Approved 20/416

2 = Poultry House Currently Proposed.

REVISIONS

No.	Date	Description

RICS Horizon cabe

Market Square, Castleblayney, Monaghan, Ireland
Tel: 042 9740671 Mobile: 087 6640512 / 087 7633025
Website: www.horizon-group.ie

Client: Morgan Hall

Professional: CLW Environmental

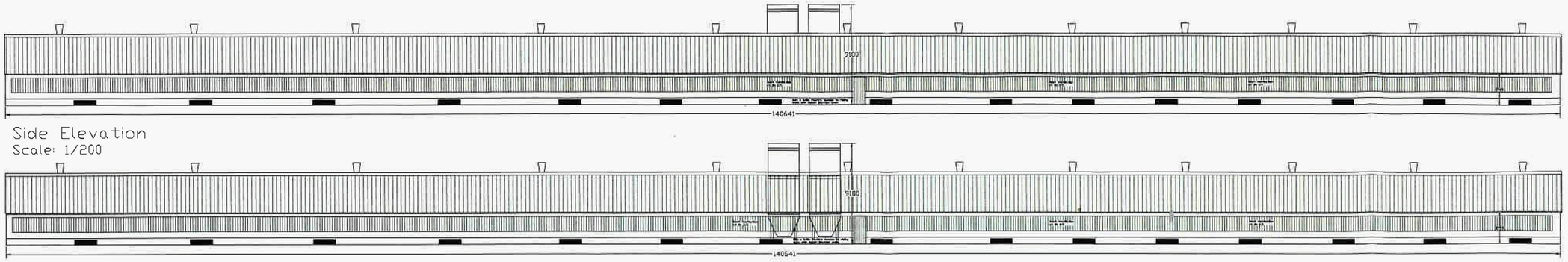
Project Title: Proposed Poultry House

Drawn:	TD	Dwg No:	01/001
Scale:	1/500	Date:	26/08/20

A1

Appendix No. 3

Drawings of Proposed Development
(Not to scale)



Side Elevation
Scale: 1/200

Side Elevation
Scale: 1/200

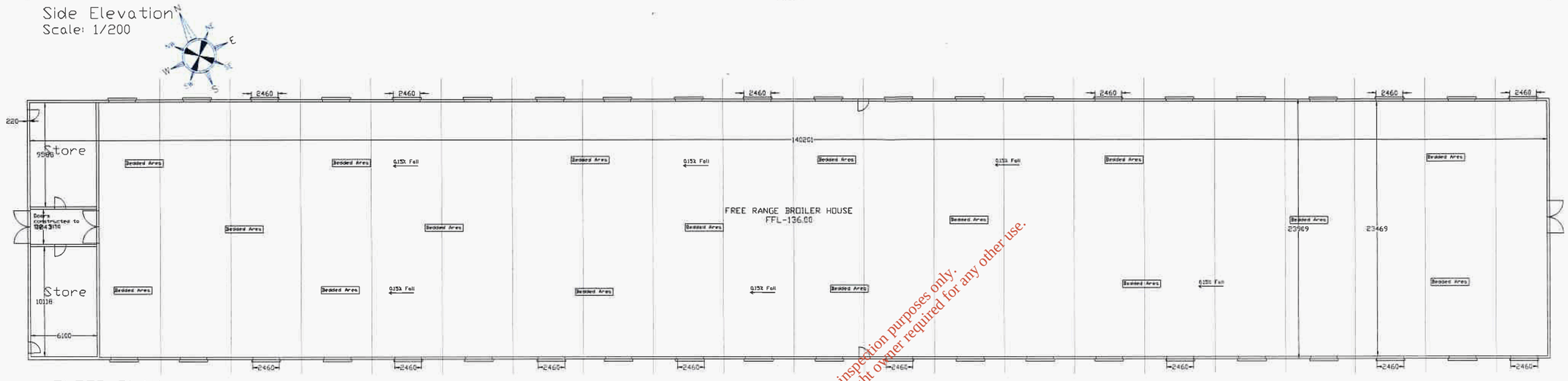
NOTES:
1. All levels are relative to Ordnance Datum Malin Head
2. 50m sq grid relative to Irish Transverse Mercator Co-ordinate reference system
3. Contours are at .25m intervals

LINE TYPE LEGEND

	Box		Electricity Box
	Downpipe		Fire Hydrant
	Electricity Pole		Fire Station
	Gate		Inspection Cover
	Gully		Invert Level
	Gas Valve		Lamp Post
	Gas Cover		Manhole
	Finished Floor Level	CPORT	Post
	Electricity Cover		Pillar
	Manhole Cover		Telegraph pole
	Ridge		Telecom Cover
	Spot Level		Tree
	Sign		Water Meter

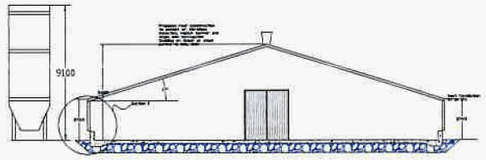
LINE TYPE LEGEND

	Boundary		Surface Change
	Building		Step
	Bank Top		Vegetation Line
	Bank Bottom		Verge
	Channel		Telecom Cover
	Fence		Wall
	Kerb		Railing
	Path		Verge
	Overhead Electricity Line		Road Edge



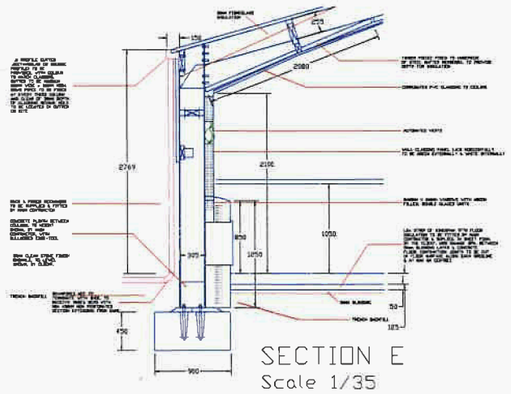
FLOOR PLAN
Scale: 1/200

FRONT ELEVATION
Scale: 1/200



SECTION A-A
Scale: 1/200

REAR ELEVATION
Scale: 1/200



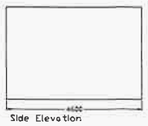
SECTION E
Scale 1/35

Section A-A

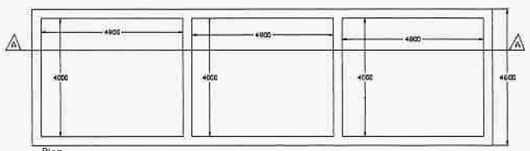
Front Elevation

Side Elevation

Rear Elevation



Side Elevation



Plan
Proposed Mass Concrete Tank
Scale 1/100

REVISIONS

No.	Date	Description

RICS Horizon cabe

Market Square Castleblayney Monaghan Ireland
Tel 042 9740671 Mobile 087 6640932 087 7635025
Website www.horizon-group.ie

Client:
Morgan Hall

Professional:
CLW Environmental

Project Title:
Proposed Poultry House

Drawn:	TD	Dwg No:	01/004
Scale:	1/200	Date:	27/08/20

A1

Appendix No. 4

Environmental Protection Agency – Draft 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

McCARTNEY CONTRACTORS Ltd.

Moynalty, Kells, Co. Meath. Tel: 046-9244444 Fax: 046-9244183

22nd February 2021.

To whom it may concern:

RE: **Morgan and Kenneth Hall, Liagar and Corglass, Bailieboro, Co. Cavan.**

McCartney Contractors Ltd can remove the poultry Litter from the above site.

We can confirm that same will be transported in accordance with Animal By-Product regulations.

All records will be maintained in our office included annual returns to Nitrate Section Johnstown Castle (R3 Forms).

Department of Agricultural food and Marine registered number HA2338

If you require any additional information please do not hesitate to contact me.

Yours sincerely,

Andrew McCartney

Andrew McCartney.

Appendix No. 6

Animal Tissue Disposal

College
Proteins
Group

College Proteins

College Road, Nobber, Co. Meath, Ireland.
Tel: +353 (0) 46 909 6000 Fax: +353 (0) 46 905 2062 / 905 2465
Website: www.collegeproteins.ie Email: info@collegeproteins.ie

Morgan Hall,
Liagar and Corglass
Bailieboro,
Co. Cavan

13.11.20

To Whom It May Concern:

We wish to confirm that we are available collect and dispose of poultry from the above named individual on a regular basis should he require our service. The poultry will be contained in 240 litre or 660 litre wheelie bins. Our plant at Nobber, which was custom built on a green field site in 1989 is fully equipped with a modern effluent system, which is regularly monitored by the E.P.A. under IPC licence no. P0037-03. We pride ourselves on having a good reputation in the Rendering Industry, and we have been certified under EU Directive 1069/2009, which governs the industry.

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

Yours faithfully,

P.P. Nuala Hartstrong
Ita Brady
Transport Manager

Appendix No. 8

Extent and Location of Lands Available for Application of Soiled Water

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

For Basic Payment Scheme,Areas of Natural Constraint Scheme and other Area-Based Schemes Purposes only
Year: 2020 **Scale:** 1:4000

Name: NEVILLE HALL
Address: DRUMKEERY
BAILIEBORO
CO CAVAN

Townland Code: B10426
Townland Name: LEAR

Parcel	Digitised	MEA*	Claimed
B1042600004	2.56	2.56	2.56
B1042600005	0.49	0	0
B1042600010	4.76	4.76	4.76

Ortho Used: COL_ORTHO_FULL_COV

All areas displayed above are in hectares
* MEA calculation available online via agfood.ie

Imagery Dates: 17/07/2016

B1821194

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

For Basic Payment Scheme,Areas of Natural Constraint Scheme and other Area-Based Schemes Purposes only
Year: 2020 **Scale:** 1:4000

Name: NEVILLE HALL
Address: DRUMKEERY
BAILIEBORO
CO CAVAN

Townland Code: B17819
Townland Name: SKEAGH

Parcel	Digitised	MEA*	Claimed
B1781900030	6.11	6.08	6.08

Exclusions

Parcel	Excl	Area	Red%	Elig	Type
B1781900030	0021	0.03	100	0	Building

Ortho Used: COL_ORTHO_FULL_COV

All areas displayed above are in hectares
* MEA calculation available online via agfood.ie

Imagery Dates: 13/07/2011, 06/11/2011

B1821194

Appendix No. 9

Feed Details

Carton Bros. Limited,
(Milling Division)
Shinan, Shercock,
Co. Cavan, Ireland.

Tel: 042-9669241
Fax: 042-9669575

28th January 2013

TO WHOM IT MAY CONCERN.

Carton Bros. Ltd. own and operate their own Feed Mill at Shinan, Shercock, Co. Cavan. This gives them complete control over feed formulations and feed quality. As part of an on-going policy of producing the most cost-effective poultry rations consistent with meeting the nutritional requirements for optimum production, Carton Bros. Ltd have adopted the latest technologies for reducing excretion of excess nutrients.

Carton Bros. Ltd were the first Feed Mill in Ireland to use the enzyme "Phytase" across their full range of feeds since March 1999. This has reduced Phosphate excretion by up to 30%. The use of other enzymes to improve the digestibility of feed has allowed smaller quantities to be fed, thus reducing litter output. Carton Bros. Ltd have always formulated to the lowest crude protein content possible thereby minimising the excretion of Nitrate in the litter.

Carton Bros. Ltd are constantly evaluating any new technologies which become available to minimise poultry manure and nutrient excretion and are available to discuss this matter at any time.

Yours Sincerely,

Tom Horan
Agriculture Manager

Directors:
Thos. P. Carton
Justin T. Carton
Vincent A. T. Carton
Reg. Office: Bessor Drive, Clondalkin
Industrial Estate, Dublin 22.
Reg. No. 7513.
VAT No. IE 8S-184678

Appendix No. 10

General/Mixed Waste Disposal

NWCPO
National Waste Collection Permit Office

Offaly County Council
Áras an Chontae
Charleville Road
Tullamore
Co. Offaly
Telephone: 057 9357423
Email: contactus@nwcpo.ie

WASTE COLLECTION PERMIT

Waste Management (Collection Permit) Regulations, 2007 as amended

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

Applicant Name: **Wilton Waste Recycling Ltd** (hereinafter called the permit holder)

Trading As: **Wilton Waste Recycling**

Permit Number: NWCPO-12-11001-05

Trading Address: Kiffa Crosserlough Co. Cavan

Registered Company Address: Kiffa Crosserlough Co. Cavan

Contact Phone Number: 0494336476

Valid From: 6/10/2017

Valid to and Expires on 5/10/2022

This permit, issued to the aforementioned permit holder, is subject to the attached schedule of conditions and authorises this permit holder to:

- **Only collect the waste type(s) specified in Appendix A (List of Waste six digit codes)**
- **Only transfer waste to the facilities specified in Appendix B**
- **Only use vehicle(s) specified in Appendix C, and for household kerbside waste collection, only use vehicles listed Appendix C Table 2**
- **Only collect waste within the local authority areas specified in Appendix D**

Any non-compliance with the conditions of this permit is an offence under the Waste Management (Collection Permit) Regulations, 2007 as amended and Section 34(1) of the Waste Management Act 1996

Signed: I. Mallen
for Programme Manager

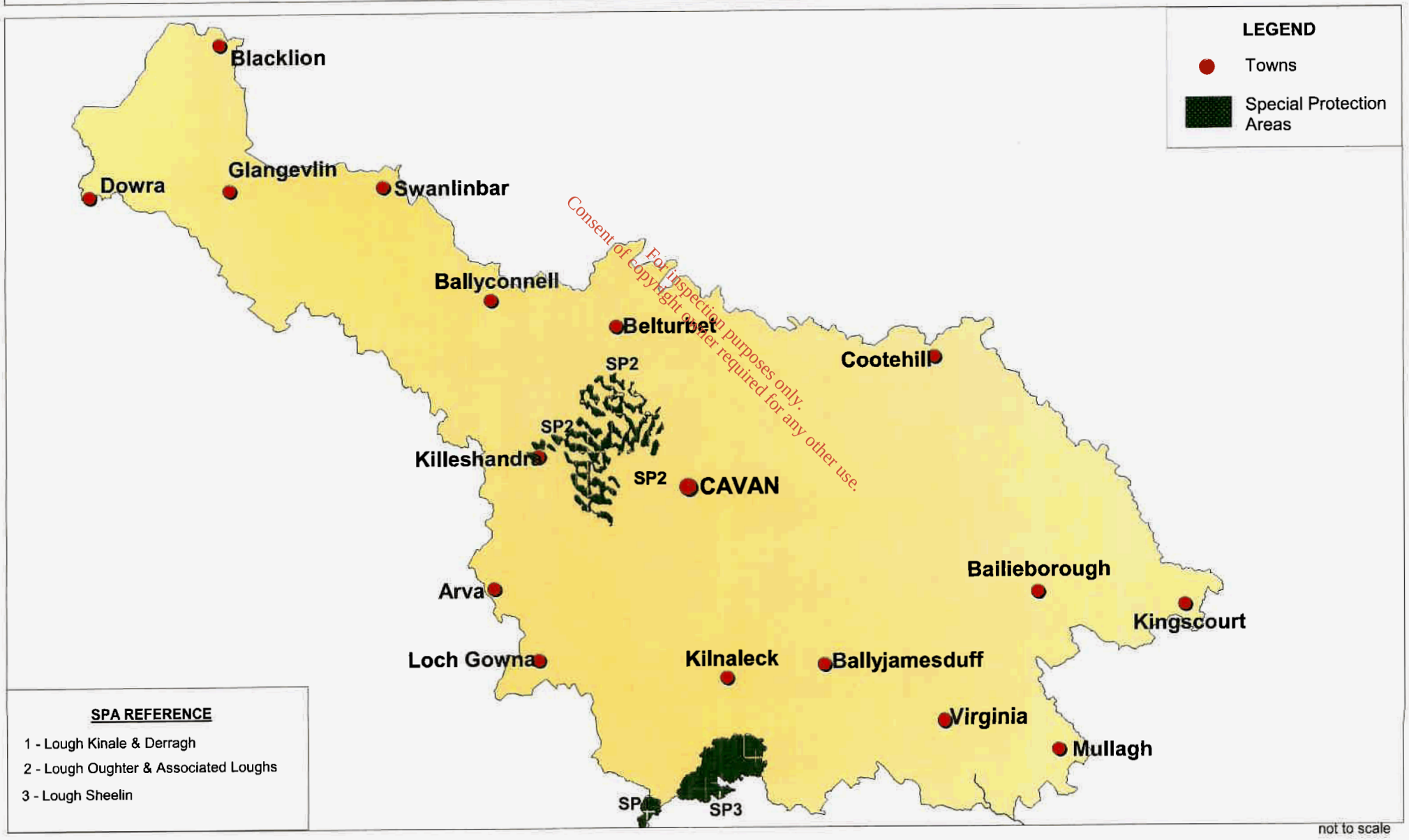
Date: 6/10/2017

Appendix No. 11

Extracts from Cavan County Development Plan 2014 - 2020

COUNTY DEVELOPMENT PLAN 2014 - 2020

COUNTY CAVAN **SPECIAL PROTECTION AREAS** MAP 1

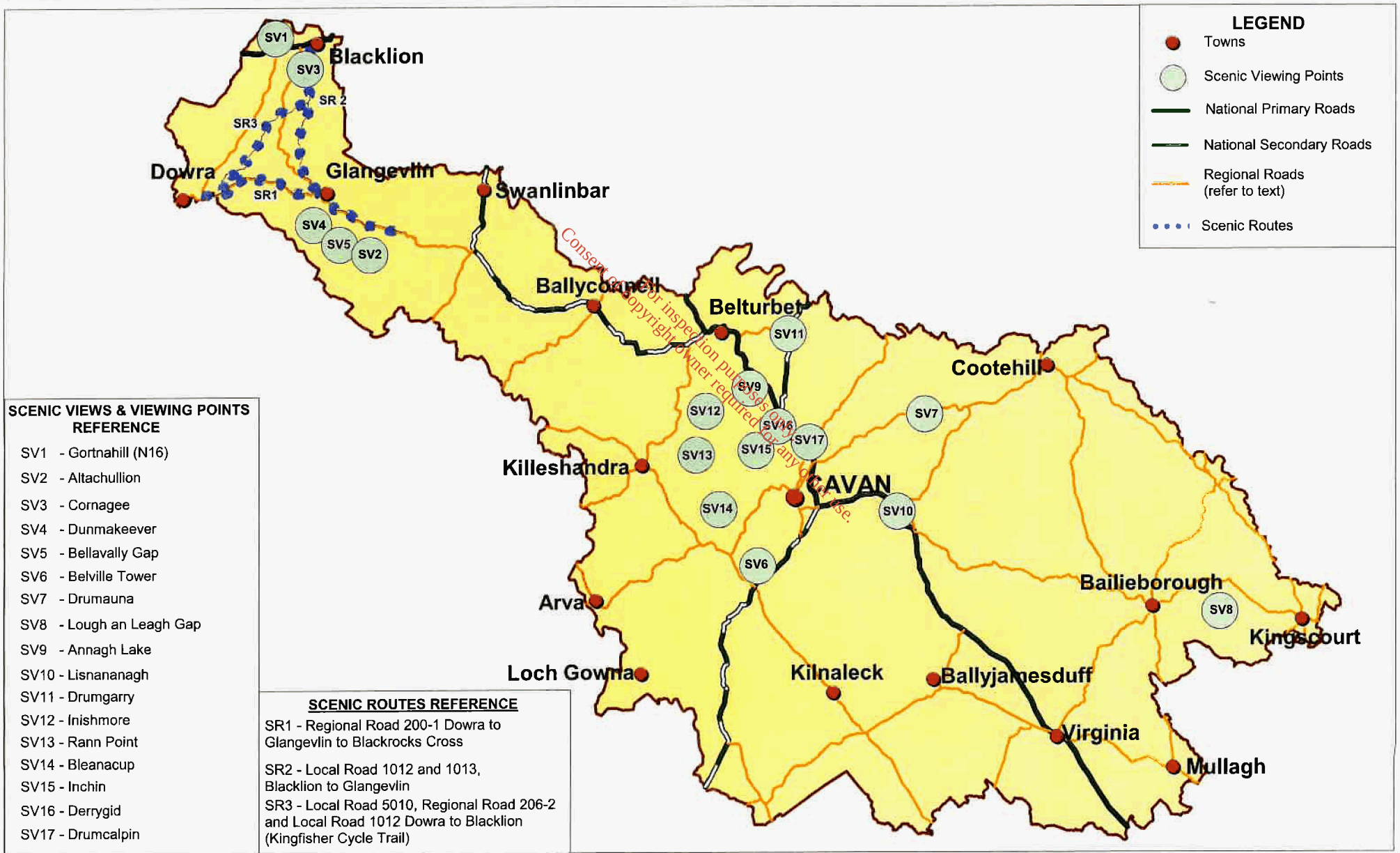


COUNTY DEVELOPMENT PLAN 2014 - 2020

COUNTY CAVAN

SCENIC VIEWING POINTS AND SCENIC ROUTES

MAP 10



SCENIC VIEWS & VIEWING POINTS REFERENCE

SV1 - Gortnahill (N16)
SV2 - Altachullion
SV3 - Cornagee
SV4 - Dunmakeever
SV5 - Bellavally Gap
SV6 - Belville Tower
SV7 - Drumauna
SV8 - Lough an Leagh Gap
SV9 - Annagh Lake
SV10 - Lisnananagh
SV11 - Drumgarry
SV12 - Inishmore
SV13 - Rann Point
SV14 - Bleanacup
SV15 - Inchin
SV16 - Derrygid
SV17 - Drumcalpin

SCENIC ROUTES REFERENCE

SR1 - Regional Road 200-1 Dowra to Glangevlin to Blackrocks Cross

SR2 - Local Road 1012 and 1013, Blacklion to Glangevlin

SR3 - Local Road 5010, Regional Road 206-2 and Local Road 1012 Dowra to Blacklion (Kingfisher Cycle Trail)

not to scale

COUNTY DEVELOPMENT PLAN 2014 - 2020

COUNTY CAVAN

RIVER/LAKESIDE AMENITIES AND PARKS

MAP 11

FOREST PARKS AND OTHER PARKS REFERENCE

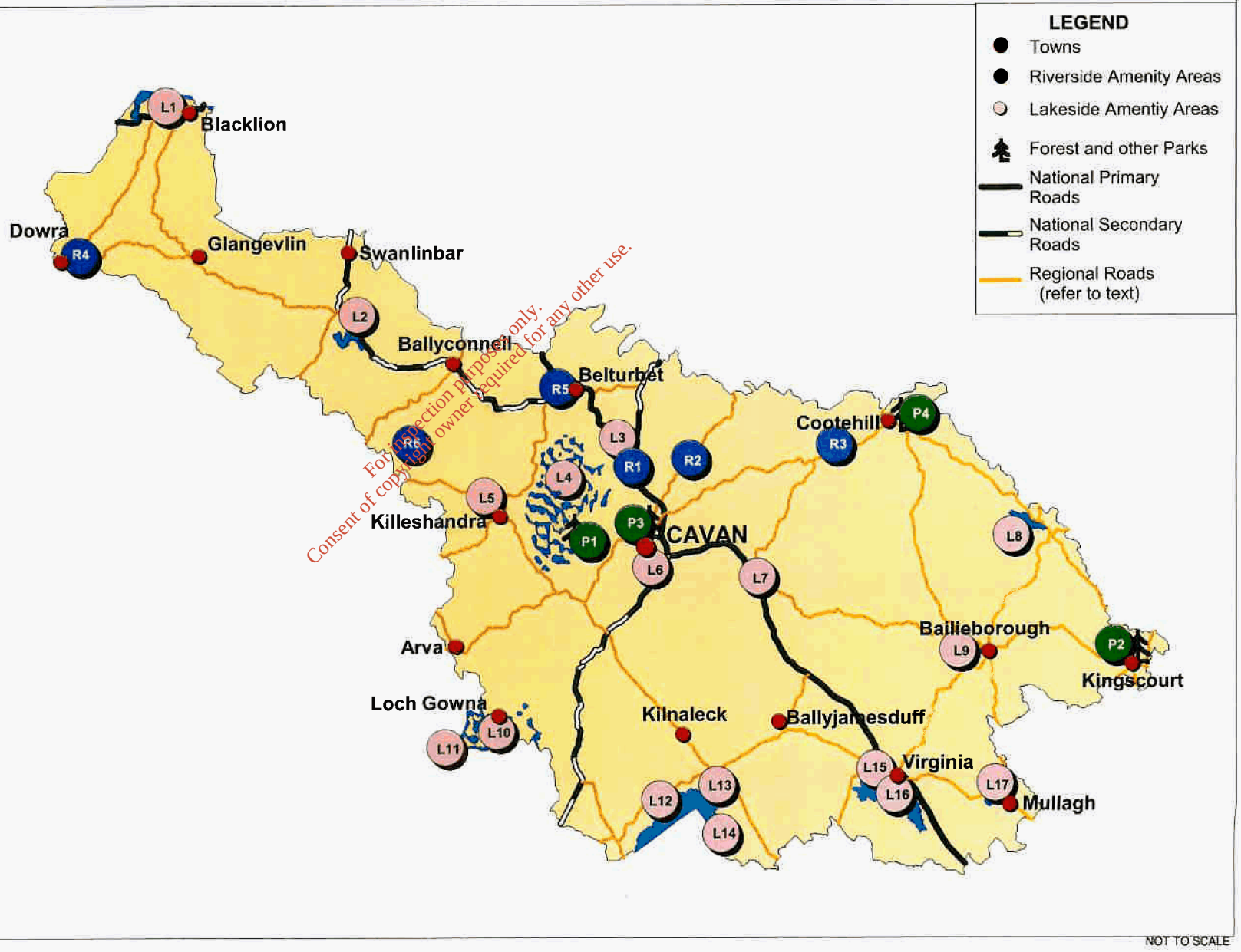
P1 - Killykeen Forest Park, Lough Oughter
P2 - Dun a Ri Forest Park, Kingscourt
P3 - Con Smith Park, Cavan
P4 - Bellamont Forest, Cootehill

LAKESIDE AMENITY AREAS REFERENCE

L1 - Killykeen Forest Park, Lough Oughter
L2 - Dun a Ri Forest Park, Kingscourt
L3 - Annagh Lake, Butlersbridge
L4 - Rann Point, Lough Oughter
L5 - Town Lough, Killeshandra
L6 - Greenlough, Cavan
L7 - Lavey Strand (N.3)
L8 - Annafarney, Shercock, Lough Sillan
L9 - Town Park, Bailieborough Lake
L10 - Cloone, Lough Gowna
L11 - Dernaferst, Lough Gowna
L12 - Kilnahard, Lough Sheelin
L13 - Crover, Lough Sheelin
L14 - Tonagh, Lough Sheelin
L15 - Virginia Town, Lough Ramor
L16 - Old Quay, Corronagh, Lough Ramor
L17 - Mullagh Lough, Mullagh

RIVERSIDE AMENITY AREAS REFERENCE

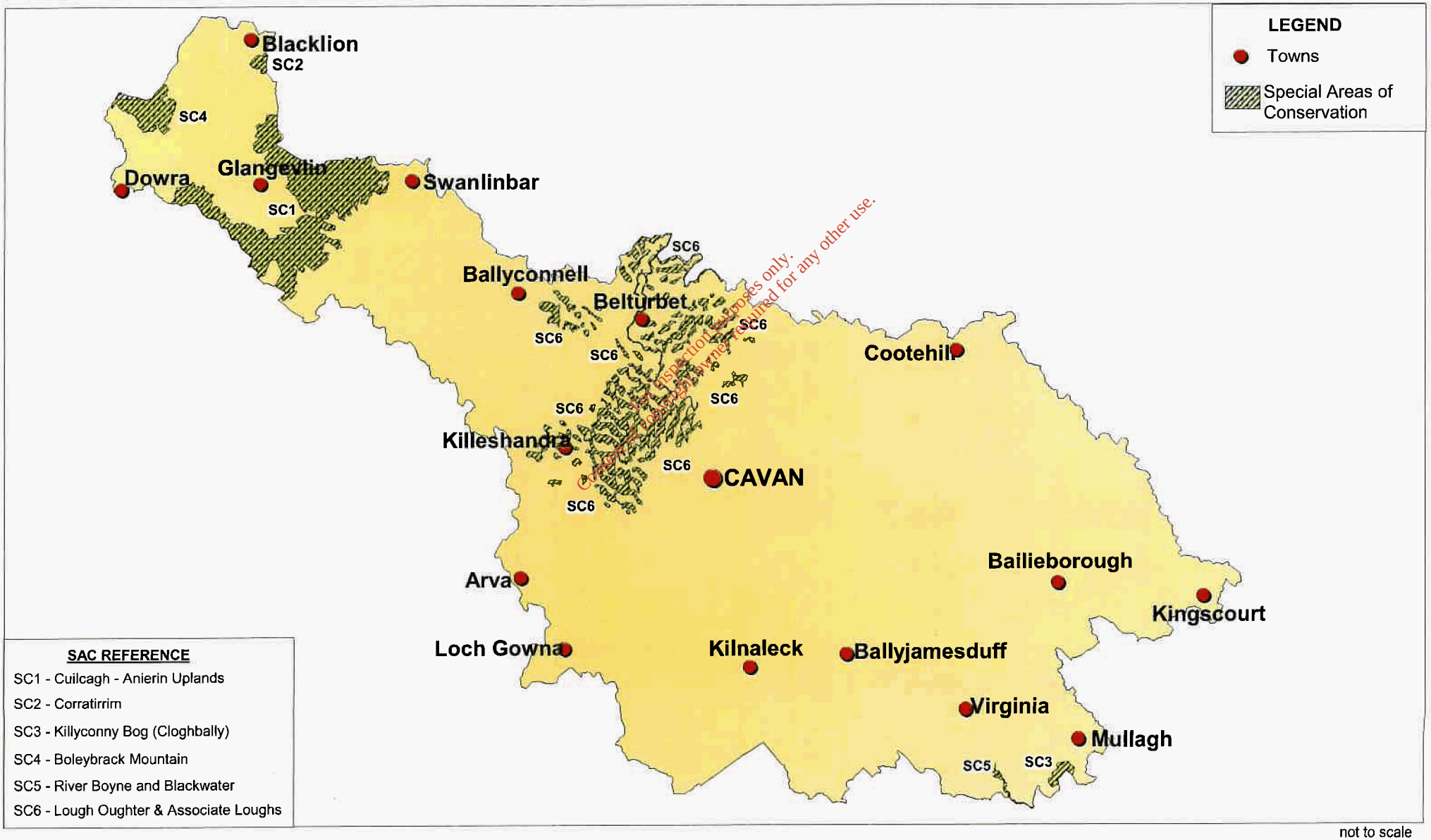
R1- Annalee (Butlersbridge Riverside Walk)
R2 - Annalee (Ballyhaise Amenity Park)
R3 - Annalee (Corrick Bridge Amenity Park)
R4 - Shannon, Dowra (Proposed Riverside Park)
R5 - Erne (Belturbet Riverside Park)
R6 - Woodford River (Erne-Shannon Canal Link) Towpath Amenity



NOT TO SCALE

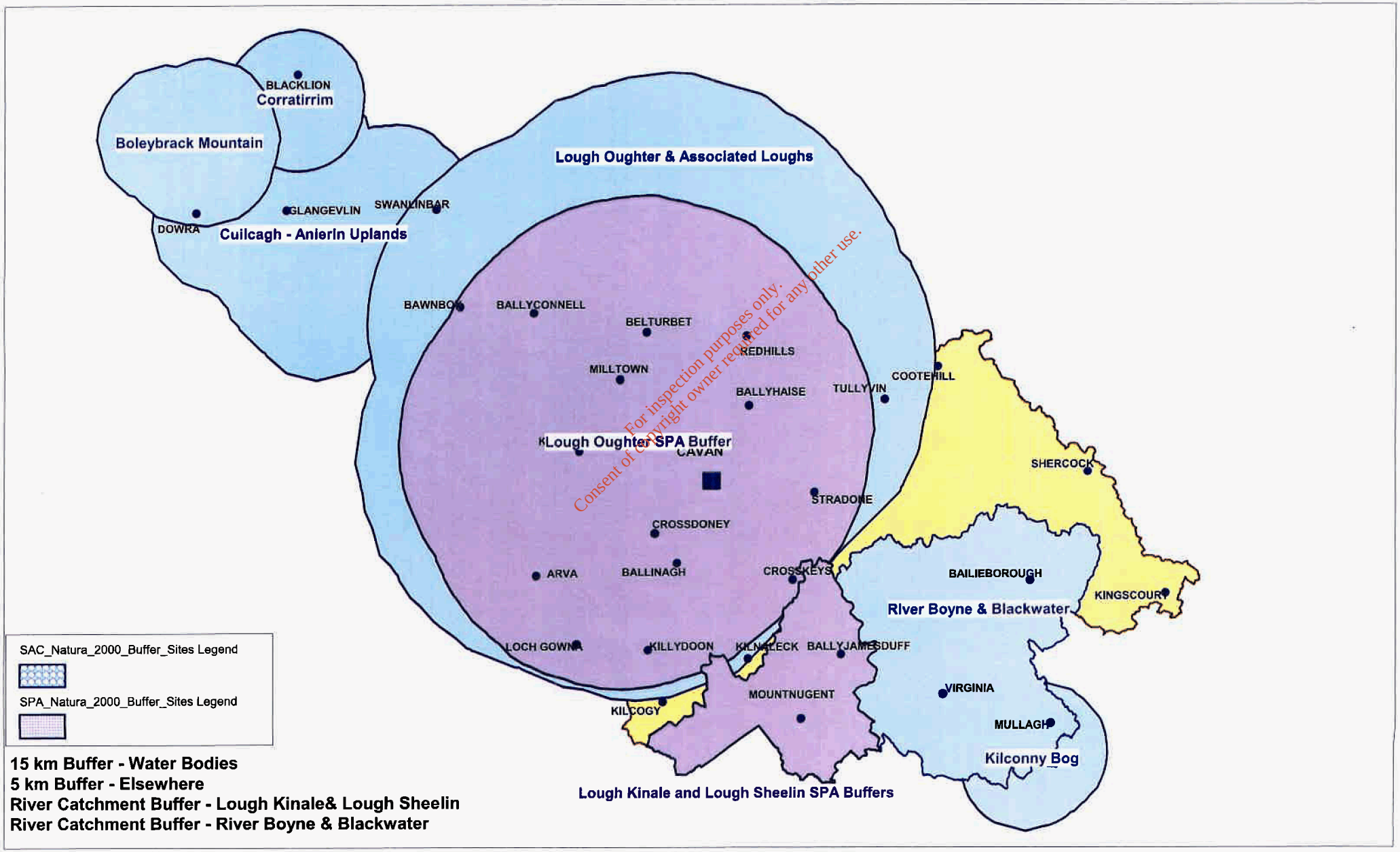
COUNTY DEVELOPMENT PLAN 2014 - 2020

COUNTY CAVAN **SPECIAL AREAS OF CONSERVATION** MAP 2



COUNTY DEVELOPMENT PLAN 2014 - 2020

COUNTY CAVAN — NATURA 2000 APPROPRIATE ASSESSMENT BUFFER AREAS — MAP 3



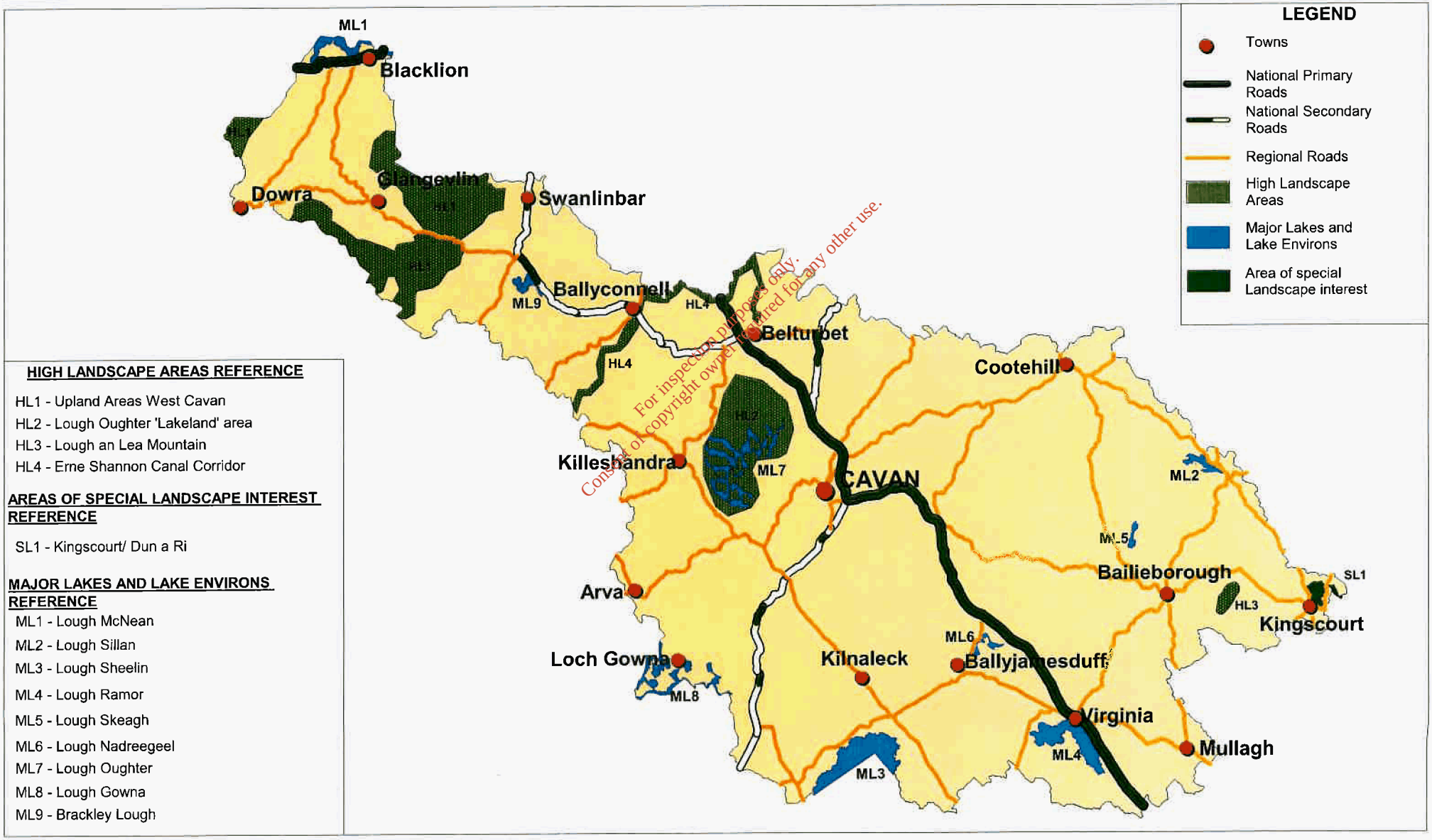
15 km Buffer - Water Bodies
5 km Buffer - Elsewhere
River Catchment Buffer - Lough Kinale& Lough Sheelin
River Catchment Buffer - River Boyne & Blackwater

COUNTY DEVELOPMENT PLAN 2014 - 2020

COUNTY CAVAN

HIGH LANDSCAPE AREAS AND MAJOR LAKES

MAP 8



HIGH LANDSCAPE AREAS REFERENCE

HL1 - Upland Areas West Cavan
HL2 - Lough Oughter 'Lakeland' area
HL3 - Lough an Lea Mountain
HL4 - Erne Shannon Canal Corridor

AREAS OF SPECIAL LANDSCAPE INTEREST REFERENCE

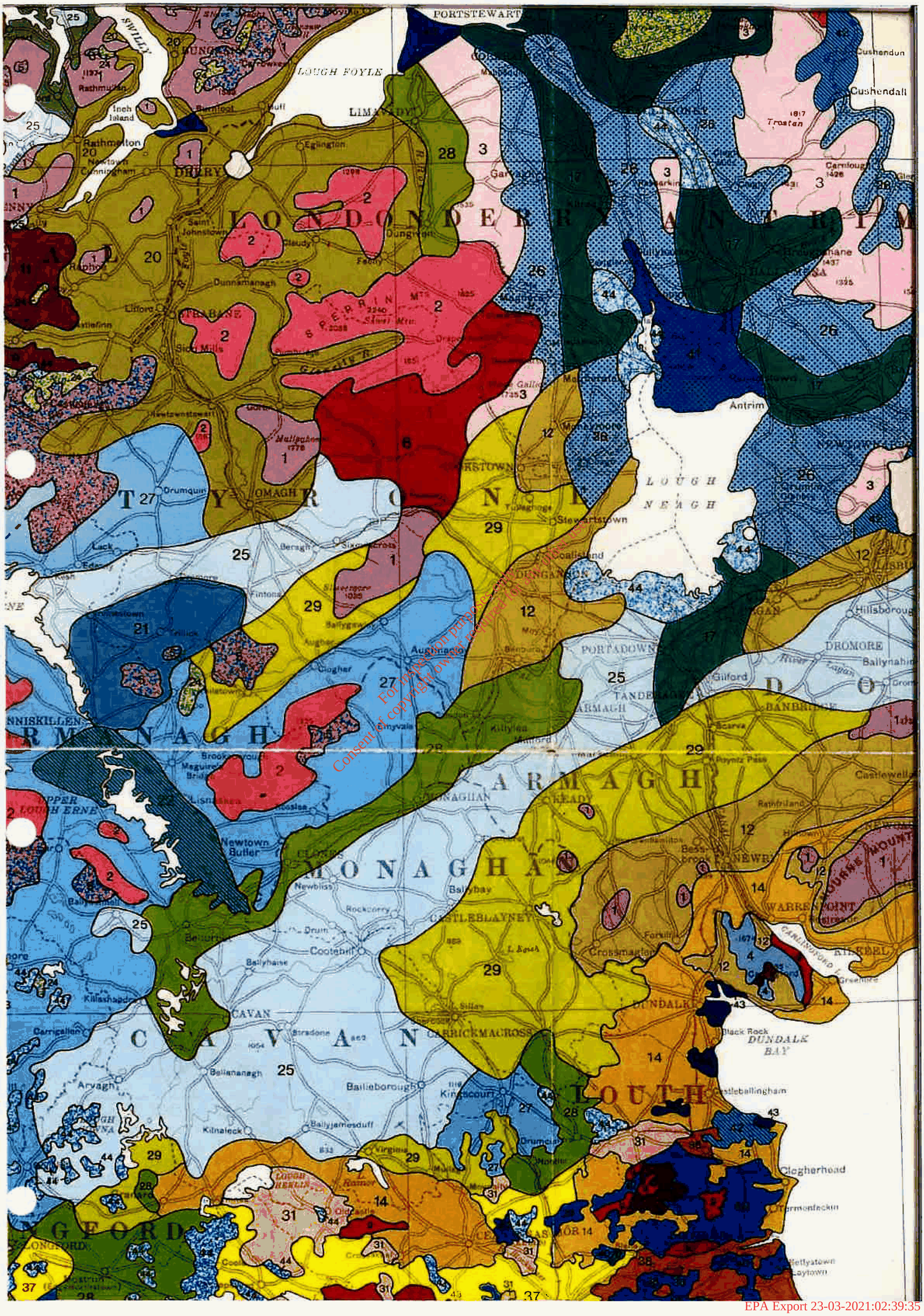
SL1 - Kingscourt/ Dun a Ri

MAJOR LAKES AND LAKE ENVIRONS REFERENCE

ML1 - Lough McNean
ML2 - Lough Sillan
ML3 - Lough Sheelin
ML4 - Lough Ramor
ML5 - Lough Skeagh
ML6 - Lough Nadreegeel
ML7 - Lough Oughter
ML8 - Lough Gowna
ML9 - Brackley Lough

Appendix No. 12

Extract from General Soil Map of Ireland.



the Controller of H.M.Stationery Office. Smaller islands not surveyed.

Soils	Parent Material	Per cent of total area
	Mostly granite or rhyolite glacial till	1·13 2·50
zolics (15)	Mixed sandstone, limestone glacial till	1·69 1·40
(10)	Ordovician – Silurian – Cambrian shale glacial till	4·22 4·32
hs (20)	Sandstone, Lower Avonian shale glacial till	6·31 5·23
sols (3),	Morainic sands and gravels and blown sands	·42 ·35
	Basalt glacial till	·02 1·35
t (10)	Sandstone, granite, mica schist glacial till	·74 ·61
)	Upper Carboniferous shale and sandstone glacial till	·77 ·64
hs (20),	Mica schist glacial till	1·41 2·46
)	Sandstone glacial till	2·95 2·78
hs (15)	Upper Carboniferous shale glacial till	4·86 4·27
d Peat	Granite and sandstone and shallow glacial till (quartzite in places)	1·31 1·08
		5·14 4·40

Broad Physiographic Divisions	Soil Association			Parent Material	Per cent of total area
	Nos.	Principal Soil	Associated Soils		
Drumlin (Wet Mineral and Organic Soils)	26	Gleys (50%)*	Acid Brown Earths (40%) Interdrumlin Peat and Peaty Gleys (10%)	Mostly Ordovician – Silurian shale sandstone glacial till	2·57 3·66
	26	Gleys (60)*	Acid Brown Earths (40)	Basalt glacial till	— 1·86
	27	Gleys (85)*	Interdrumlin Peat and Peaty Gleys (15)	Mostly Upper Carboniferous limestone and shale – sandstone glacial till	3·77 4·73
Drumlin (Drier Mineral and Organic Soils)	28	Grey Brown Podzolics (60)	Gleys (20), Interdrumlin Peat and Peaty Gleys (20)	Mostly limestone glacial till	3·43 3·23
	29	Acid Brown Earths (75)	Interdrumlin Peat and Peaty Gleys (25)	Mostly Ordovician – Silurian shale – glacial till	1·16 2·73
Flat to Undulating Lowland (Mainly dry Mineral Soils)	30	Grey Brown Podzolics (70)	Brown Earths (20) Gleys (5) Basin Peat (5)	Limestone morainic gravels and sands	2·64 2·18
	31	Minimal Grey Brown Podzolics (80)	Gleys(10) Brown Earths(5) Basin Peat (5)	Limestone glacial till	4·47 3·70
	32	Degraded Grey Brown Podzolics (50)	Peat (15) Brown Earths(15 Gleys (10), Podzols (10)	Mostly limestone glacial till	3·08 2·56
	33	Shallow Brown Earths and Rendzinas (60)	Grey Brown Podzolics(25) Gleys (10) Peat (5)	Limestone till, shallow in places	3·21 2·66
	34	Minimal Grey Brown Podzolics (70)	Gleys (20) Brown Earths (10)	Limestone glacial till	6·02 4·98
	35	Grey Brown Podzolics (80)	Gleys (10), Brown Earths (10)	Stony limestone glacial till	·64 ·53
	36	Grey Brown Podzolics (80)	Gleys (20)	Limestone gravelly till	·70 ·58
	37	Grey Brown Podzolics (75)	Gleys (20), Brown Earths (5)	Limestone and shale glacial till	1·42 1·18
	38	Grey Brown Podzolics (75)	Gleys (25)	Till of Irish Sea origin with limestone and shale	1·14 ·95
Flat to Undulating Lowland (Mainly wet Mineral and Organic Soils)	39	Gleys** (90)	Grey Brown Podzolics (10)	Limestone glacial till	3·27 2·86
	40	Gleys* (80)	Grey Brown Podzolics (20)	Till of Irish Sea origin with limestone and shale	2·07 1·56
	41	Gleys* (75)	Acid Brown Earths (15) Peaty Gleys (10)	Basalt glacial till	— ·22
	42	Gleys* (90)	Grey Brown Podzolics (10)	Glacial muds of Irish Sea origin	·49 ·61
	43	Gleys (60)	Brown Earths (20) Peaty Gleys (20)	Alluvium	1·34 1·15
	44	Basin Peat			5·79 5·08

Appendix No. 13

Local Water Quality Data

Environmental Protection Agency

EPA RIVER QUALITY SURVEYS: BIOLOGICAL

Biotic indices ("Q Values") reflect average water quality at any location as follows:

Q Value*	WFD Status	Pollution Status	Condition **
Q5, Q4-5	High	Unpolluted	Satisfactory
Q4	Good	Unpolluted	Satisfactory
Q3-4	Moderate	Slightly polluted	Unsatisfactory
Q3, Q2-3	Poor	Moderately polluted	Unsatisfactory
Q2, Q1-2	Bad	Very polluted	Unsatisfactory

* These Values are based primarily on the relative proportions of pollution sensitive to tolerant macroinvertebrates (the young stages of insects primarily but also snails, worms, shrimps etc.) resident at a river site. The intermediate values (Q1-2, 2-3, 3-4 etc.) denote transitional conditions. The scheme mainly reflects the effects of organic pollution (i.e. de-oxygenation and eutrophication) but where a toxic effect is apparent or suspected the suffix '0' is added to the biotic index (e.g. Q1/0, 2/0 or 3/0). An asterisk after the Q value (e.g. Q3*) indicates something worthy of special attention, typically heavy siltation of the substratum.

** "Condition" refers to the likelihood of interference with beneficial or potential beneficial uses.

Also presented is a description of the exact location surveyed with relevant OS Grid Reference, WFD river water body code and relevant Local Authority.

Hydrometric Area 07

Name	Code
ATHBOY	07A01
BLACKWATER (KELLS)	07B01
BLACKWATER (LONGWOOD)	07B02
BOYCETOWN	07B03
BOYNE	07B04
CASTLEJORDAN	07C04
CHAPEL LAKE STREAM	07C05
CLADY (MEATH)	07C01
CROSS WATER	07C02
CROSSKEYS STREAM	07C07
D'ARCY'S CROSSROADS STREAM	07D06
DEEL (RAHARNEY)	07D01
DEVLIN'S	07D02
DRUMKEERY LOUGH STREAM	07D03
GLASH	07G02
KINNEGAD	07K01
KNIGHTSBROOK	07K02
LISLEA	07L01
Lough Lene-Adeel Stream	07L03
MATTOCK	07M01
MILLTOWNPASS	07M04
MOYNALTY	07M03

Name	Code
MULLAGH LOUGH STREAM	07M06
NADREEGEEL LOUGH STREAM	07N01
RIVERSTOWN	07R01
ROCHFORTBRIDGE STREAM	07R04
SKANE	07S01
STONYFORD	07S02
TROMMAN STREAM	07T01
YELLOW (BLACKWATER)	07Y01
YELLOW (CASTLEJORDAN)	07Y02

BLACKWATER (KELLS)

07B01

Date Surveyed (last survey year only): 07/08/18, 09/08/18, 14/08/18, 16/08/18, 17/08/18

Biological Quality Rating (Q Values)

Station Code	1973	1974	1975	1977	1978	1980	1982	1984	1987	1988	1989	1990	1994	1997	2000	2003	2006	2009	2012	2015	2018
RS07B010100		3-4			4-5	4	4-5	4-5					4	4	4-5	4-5	4	4	4*	4*	4
RS07B010170					1	1	1	1	1	2	1	1	2	2-3	2	2-3	2-3	3	3-4	3-4	2-3
RS07B010200		1-2			1	1	1	1/0	1	1	1	1	2						2-3		
RS07B010280												3	3	3	3	3*	3		3	3	3
RS07B010300		4			4	4	3-4	3-4													
RS07B010400		3																			
RS07B010420								3-4				3-4	3-4	3-4	4	3-4	3-4	3-4	3-4	3-4	3-4
RS07B010450						4	4	4				3-4									
RS07B010500		4-5		5	4-5	3-4	3-4	3-4		5		4	3-4	3-4	3-4	4	4	4	4	4	4
RS07B010600					4	4	3-4	3-4				3-4	3-4	3-4	3-4	3-4	4	4	4	4	3-4
RS07B010700		5			4	4-5	3-4	3-4				3-4									
RS07B010800		5			4	4	4	4				4	3-4	4	4	4	4	4	4	4	3-4
RS07B010810								1				3-4									
RS07B010900		3-4			2-3	3		3				3	3	3	3	3	3				
RS07B011000		4			3-4		3-4	4				3-4	3	3	3-4	3	3	3	3	3	3-4
RS07B011100		4-5			4	4		4				4	4	4	4	3-4	3-4	3-4	3-4	3-4	4

Station Code	1973	1974	1975	1977	1978	1980	1982	1984	1987	1988	1989	1990	1994	1997	2000	2003	2006	2009	2012	2015	2018
RS07B011200		5			4-5	4		4-5				4	3-4	4	3-4	3-4	3-4	3-4	3-4	3-4	3-4
RS07B011300		4-5			4	3-4		3-4				4	3-4	3-4	3-4	3-4	3-4				
RS07B011400	4		4	5		4		4				4	4	4	4	4	4				
RS07B011500	5		5	5		4		4				4	3-4	4	3-4	4	4	4	3-4	3	3-4
RS07B011790															3-4	3-4		3-4	3-4		
RS07B011800	4-5		4	4-5		4		3-4				4	3-4	3							3

Most Recent Assessment:

The Blackwater (Kells) River was in unsatisfactory ecological condition at nine of the twelve stations surveyed in 2018. Station 0170 (at Drumbannon) downstream of Baileborough deteriorated to poor ecological condition after improving slightly in 2012. Station 0800 at the inflow to Lough Ramor and 0600 at Stramaquerty Br also deteriorated and are now at moderate ecological status. Daly's Bridge (1000) improved to moderate ecological status and the Br near Carnaross (1100) improved to good ecological status. Donaghpatrick Bridge (1500) downstream of Kells & the Moynalty River confluence has also improved since the last survey and is now at moderate biological status. A new site was sampled at the Slane Road Bridge in Navan (1800) upstream of the Boyne confluence and was found to be at poor ecological status. The dominance of pollution tolerant macroinvertebrate taxa continues to indicate unsatisfactory ecological conditions in the Baileborough area (0170) and downstream (0280, 0420) and downstream of Lough Ramor (1000,1200). Satisfactory conditions remain at sites 0100 and 0500.

Station Details

Station Code	Station Location	WFD Waterbody Code	Easting	Northing	Local Authority
RS07B010100	Br 2km NE of Bailieborough	IE_EA_07B010100	269701	298172	Cavan County Council
RS07B010170	Br at Drumbannon	IE_EA_07B010170	267726	298007	Cavan County Council
RS07B010200	Br at XRds SW (u/s) Castle L	IE_EA_07B010280	267047	298787	Cavan County Council
RS07B010280	3rd Br d/s Castle L	IE_EA_07B010280	265967	298102	Cavan County Council
RS07B010300	Br at XRds SW of Castle L	IE_EA_07B010420	265482	297985	Cavan County Council
RS07B010400	Parkers Br	IE_EA_07B010420	264676	297253	Cavan County Council

Station Code	Station Location	WFD Waterbody Code	Easting	Northing	Local Authority
RS07B010420	Br d/s Parker's Br	IE_EA_07B010420	263608	296703	Cavan County Council
RS07B010450	Br at Carricknaveagh	IE_EA_07B010500	262396	293934	Cavan County Council
RS07B010500	Br in Killinkere	IE_EA_07B010500	261048	293535	Cavan County Council
RS07B010600	Stramaquerty Br (nr Drumagolan)	IE_EA_07B010600	259490	292094	Cavan County Council
RS07B010700	BLACKWATER (KELLS) - Murmod Br (2km u/s Virginia)	IE_EA_07B010800	259961	288849	Cavan County Council
RS07B010800	Just u/s L Ramor (RHS)	IE_EA_07B010800	260410	287053	Cavan County Council
RS07B010810	Just u/s L Ramor (LHS)	IE_EA_07B010800	260410	287053	Cavan County Council
RS07B010900	Nine Eyes Bridge	IE_EA_07B011000	263048	283407	Cavan County Council
RS07B011000	Daly's Br	IE_EA_07B011000	265254	280352	Cavan County Council
RS07B011100	Br nr Carnaross	IE_EA_07B011100	268618	277967	Meath County Council
RS07B011200	Mabe's Br	IE_EA_07B011200	273629	277305	Meath County Council
RS07B011300	Sedenrath Br (Headford Br)	IE_EA_07B011500	276189	275984	Meath County Council
RS07B011400	Bloomsberry Br	IE_EA_07B011500	279341	273989	Meath County Council
RS07B011500	Donaghpatrick Br	IE_EA_07B011500	281932	272321	Meath County Council
RS07B011790	100m d/s New Bypass Br	IE_EA_07B011800	286928	268164	Meath County Council
RS07B011800	Slane Rd Br Navan	IE_EA_07B011800	287197	268017	Meath County Council

Appendix No. 14

Met Data

Clones 1978–2007 averages													
TEMPERATURE (degrees Celsius)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
mean daily max	7.2	7.8	9.7	12.1	15.1	17.4	19.2	18.8	16.6	13.1	9.8	7.6	12.9
mean daily min	1.6	1.6	3.0	4.2	6.5	9.5	11.4	11.1	9.2	6.6	3.9	2.3	5.9
mean temperature	4.4	4.7	6.4	8.1	10.8	13.4	15.3	15.0	12.9	9.9	6.8	5.0	9.4
absolute max.	14.8	16.3	16.9	21.5	25.9	29.3	30.5	28.3	25.3	20.1	16.9	14.8	30.5
min. maximum	-3.8	-0.4	2.3	0.0	0.0	10.1	10.7	11.3	10.7	6.2	1.6	-5.7	-5.7
max. minimum	12.0	11.3	11.0	12.1	13.4	16.9	18.7	18.0	17.1	15.4	12.7	12.6	18.7
absolute min.	-12.4	-7.3	-6.8	-3.8	-3.7	1.6	4.6	3.5	0.2	-4.5	-5.4	-11.0	-12.4
mean num. of days with air frost	9.4	8.5	5.0	2.5	0.4	0.0	0.0	0.0	0.0	1.1	4.2	7.4	38.4
mean num. of days with ground frost	17.0	15.0	13.0	11.0	6.0	1.0	0.0	0.0	2.0	5.0	12.0	15.0	97.0
mean 5cm soil	3.5	3.6	5.2	8.1	12.1	14.9	16.4	15.6	12.8	9.3	6.2	4.4	9.4
mean 10cm soil	4.0	4.0	5.3	7.7	11.1	14.0	15.6	15.1	12.7	9.6	6.7	4.9	9.2
mean 20cm soil	4.6	4.6	6.0	8.1	11.3	14.0	15.7	15.5	13.5	10.6	7.6	5.6	9.8
RELATIVE HUMIDITY (%)													
mean at 0900UTC	89.9	88.7	86.6	81.8	77.4	78.8	81.7	84.6	87.3	89.3	90.8	90.9	85.7
mean at 1500UTC	83.3	77.3	72.9	67.5	66.5	68.7	69.6	71.2	72.8	77.3	82.5	85.9	74.6
SUNSHINE (hours)													
mean daily duration	1.5	2.2	3.0	4.6	5.6	4.6	4.4	4.2	3.6	2.8	1.8	1.2	3.3
greatest daily duration	7.5	9.8	11.0	13.1	15.5	16.0	15.2	14.4	12.0	9.6	8.5	6.9	16.0
mean num. of days with no sun	12.1	8.3	6.0	3.8	2.2	2.6	2.2	2.8	4.0	6.9	10.3	13.2	74.3
RAINFALL (mm)													
mean monthly total	87.6	71.0	84.0	61.6	63.4	70.9	70.8	88.7	76.2	102.7	85.1	98.4	960.4
greatest daily total	30.0	26.9	34.0	23.5	37.7	38.1	50.3	74.6	27.1	43.8	33.1	31.9	74.6
mean num. of days with >= 0.2mm	20	17	20	16	16	17	18	18	18	20	19	19	218
mean num. of days with >= 1.0mm	15	12	15	12	12	12	13	13	13	15	14	15	161
mean num. of days with >= 5.0mm	6	5	6	4	4	5	4	5	5	7	6	7	64
WIND (knots)													
mean monthly speed	9.2	9.4	9.4	7.9	7.2	6.6	6.3	6.3	7.0	7.8	8.2	8.7	7.8
max. gust	70	81	69	61	53	50	53	49	57	62	60	72	61.4
max. mean 10-minute speed	46	51	41	34	35	31	30	29	37	37	35	44	37.5
mean num. of days with gales	0.6	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	2.2
WEATHER (mean no. of days with..)													
snow or sleet	4.9	4.7	3.8	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.6	2.6	18.0
snow lying at 0900UTC	2.8	1.1	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	6.2
hail	0.8	1.6	2.8	2.3	1.3	0.1	0.1	0.0	0.1	0.6	0.4	0.8	10.8
thunder	0.1	0.1	0.4	0.1	0.8	1.0	0.5	0.8	0.1	0.1	0.0	0.1	3.8
fog	3.7	3.6	2.1	2.2	1.5	1.3	1.6	2.9	4.0	3.5	4.0	4.4	34.8

Appendix No. 15

Dept. of Agriculture – Minimum Specification for Screening belts for Farmyards and Farm Buildings – S 135

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

1. Safety

APPLICANT'S RESPONSIBILITY FOR SAFETY

Applicants are reminded that they have a duty under the Safety, Health, and Welfare at Work Act 2005 to provide a safe working environment on the farm, including farm buildings, for all people who may work on that farm. There is a further duty to ensure that any contractor, or person hired to do building work, provides and/or works in a safe environment during construction. It is the farmer's responsibility to provide a construction stage project supervisor.

SAFETY DURING CONSTRUCTION

Farmer/Applicant Responsibility: Certain construction dangers may be encountered in the course of building or conversion work. Neither the Minister or any official of the Department will be in any way liable for any damage, loss or injury to persons, animals or property in the event of any occurrence related to the development and the applicant shall fully indemnify the Minister or any official of the Minister in relation to any such damage, loss or injury howsoever occurring during the development works.

Dangers: If any or all of the work is undertaken by the applicant/farmer he/she should seek competent advice and undertake all temporary work required to ensure the stability of excavations, superstructure, stanchion foundations and wall foundations,

also to divert any drains, springs or surface water away from the works, and to guard against possible wind damage, or any other foreseeable risk.

Power lines: Farm buildings shall not be constructed under or nearer than 10m to an overhead power supply. If advice is required, or if power lines need to be diverted, it is the applicant's responsibility to contact, in writing, the local ESB supervisor before construction commences, and then to follow the ESB conditions.

Danger to children: It is the applicant's responsibility to prevent children from playing or spending time in the vicinity of any building work.

2. Design and Layout of Screening Belts

Factors which influence the layout and the design of a **screening belt** are:-

- The direction from which obtrusive buildings have the greatest impact. This would frequently be the public road, but could also be a scenic viewing place, a neighbouring house or houses, or even the applicant's farmhouse.
- The fact that buildings are on a height or on a ridge making them highly visible from a distance.
- The likely future development of the farmyard. Trees should not block any obvious or useful sites for possible new buildings.
- Possible root damage to structures. Trees should be set about 20 metres or more from buildings, yards, concrete tanks, silos, etc.
- Buildings on adjoining property. No belts of trees should be planted within 30 metres of neighbouring dwellings or farm buildings.

When trying to soften the impact of obtrusive buildings it is not necessary to surround buildings or yards completely. One or two stands of reasonably tall trees can entirely change the appearance of a farmyard, and integrate it into the landscape, even if some buildings remain visible.

A single row of trees is not an effective screen, and usually looks unnatural. Two to three rows of trees should normally be planted, though informal groups of trees can be just as effective. Very long straight lines of trees should, where possible, be avoided by introducing curves or breaks.

3. Design and Layout of Shelter Belts

Factors which influence the design and layout of a **shelter belt** are:-

- The direction of prevailing winds, and of winds, which are particularly strong because of "funnelling" along valleys or around hills.
- The position of buildings or structures, which particularly need shelter (calf or sheep houses, animal yards, etc.)
- Future development of the farm, and distance from existing buildings or neighbouring buildings, as above.

Shelter belts work best when they allow about 50% of the wind to pass through. The wind should be slowed rather than blocked as for instance, by Lawson Cypresses which simply cause turbulence. A mixture of species including spruces, pines, firs, and broad leaves will provide a naturally porous belt, providing good shelter.

Shelter belts should have about five or six rows of trees, though ten or more rows may be necessary where winds are very strongly funnelled. To be effective, shelter belts should extend in both directions well beyond the line of the structure(s) they are protecting.

Unless protection from strong south winds is essential, the area directly to the south of the building(s) should not be planted to ensure adequate sun and light.

4. Site Preparation

The site should be cleared of any scrub and furze and graded to blend with the immediate surroundings. As young trees establish more easily with some initial protection, all existing barriers such as hedges and stone walls should be retained, where possible.

5. What to Plant

The choice of species will be based on the following considerations:-

1. The suitability of different species for physical conditions on the site, i.e. -soil type, drainage, exposure etc.
2. The suitability of different species for the landscape. In general deciduous trees are more appropriate than most evergreens. Very narrow tall evergreens (Leyland and Lawson Cypresses) should not be used. They draw attention to buildings and look alien in the Irish landscape. The best indicator of the most suitable species for an area are the trees already grown there successfully and look well (see appendix attached).
3. For both screening and shelter a mixture of species is recommended. Generally one species should predominate at about, 60-70% of planting, with one or two other species, grouped irregularly, providing the remainder. A mixture of too many species should be avoided, as should the use of different species placed in a regular alternating pattern in a long row.

6. When to Plant

Planting is carried out when the trees are dormant from October to April. Autumn planting is preferred for deciduous trees, while Spring planting March/April is best for evergreens.

7. Handling and Planting

Ensure that all preparatory work is completed before the trees are delivered. Tree roots must never be allowed dry out. Weather permitting; planting should commence immediately the trees arrive.

8. Pit Planting

This method is used on dry mineral soils. The young tree is inserted in a hole 150mm x 150mm x 150mm to the depth it was in the nursery soil. The roots should be teased prior to careful back-filling.

9. Ploughing and Mounting

Here planting is done by making a slit on the inverted sod/ribbon and inserting the tree so that the roots are between the two grass layers.

10. Spacing

Trees are spaced at two metres apart each way. This works out at 2,500 trees per hectare.

11. Fertilizer

Areas enclosed as fields and previously used for intensive farming normally require no further fertilizer. Other poorer areas may require a dressing of 400 kg/ha of rock phosphate. Some midland sites may require 200kg/ha of potash. A top dressing of nitrogen is beneficial to sitka spruce as growth rate is slow.

12. Fencing

All stock must be completely excluded from the new plantings. Fences must conform to specification S148. They should be kept close to the edge of the plantation to reduce their obtrusive impact on the landscape. In order to protect the young trees the fence should consist of a minimum of three strands of barbed wire plus one metre high sheep wire.

13. Maintenance of Screening Belt

It is essential to control growth of grass and weeds around the young trees during the first four years. Unchecked vegetation growth will result in poor tree establishment. Grass and weeds can be controlled by treading or by the use of suitable herbicides. Failures should be replaced each year.

Note: Herbicides shall not be used in close proximity to watercourses, field margins or wildlife habitats.

14. Minimum and Maximum Planting Areas

This specification refers **only** to the screening or shelter of farm buildings and farmyards.

The **minimum** area of planting for which this specification shall be used is 0.2ha. The **maximum** area that will be grant-aided is 2ha.

Shelter belts to protect herds or crops, or other forestry plantings on the farm, come under the responsibility of the Forest Service of this Department.

NATIVE BROADLEAVES

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Pedunculate Oak *Quercus Robur*	Well-aerated deep fertile loams. Will do well on heavier soils	Slow growing, long lived tree once the climax vegetation over most of the country	Very high quality timber suitable for many uses. Subject to timber defects when grown on adverse soils	Major forest species. One of our few native broadleaved trees. Very high amenity value
Sessile Oak *Quercus Petraea*	Tolerates less rich and lighter textured soils than *Q. robur*	Oaks will not produce good timber on excessively drained or sandy soils	Reputedly slightly better timber than *Q. robur* but site should determine choice	Major forest species. Native to Ireland. Now designated as Irish national tree
Ash *Fraxinus Excelsior*	A very exacting species demanding good soil conditions, preferably sheltered, moist well-drained fertile loam soils	A fast growing species regarded as not being suitable for large scale planting	Very high quality timber. Suitable for veneer, furniture and implement handles. High shock resistance	Major forest species. Native tree. Its wide distribution belies the difficulty in producing good quality timber
Wild Cherry *Prunus Avium*	Fertile deep well-drained mineral soils. Preference for slightly acid soils but will do well on deep loams over limestone	Fast growing, light demanding, requiring considerable space. The only commercial broadleaved tree with attractive blossoms	Produces one of the most valuable furniture and veneer timbers with a reddish brown sheen. Also used for quality turnery products	Major forest species. Native tree. High quality timber production requires good silvicultural management. A very good farm forestry tree. May suffer from bacterial canker and aphid attack
Alder *Alnus spp*	Common alder is a very hardy accommodating species suitable for wet sites. Good wildlife species. Grey and Italian alders will tolerate and grow well on drier sites. Italian alder is has a preference for more alkaline sites	Fast growing nitrogen fixing tree. Suitable broadleaf for even the wettest sites	Durable general purpose timber with a course texture. Less used in recent times	Minor forest species. Common Alder is a native tree. Coppices freely and can be used in mixtures on very infertile sites. Valuable shelter tree
Birch *Betula spp*	Pioneer species suited to very acid soils and peats	Fast growing, hardy species, withstands exposure and frost well. Useful as a nurse crop in mixtures but must be kept under control or it will smother a slower growing tree species	Not regarded as a timber tree in Ireland. Is used for pulp in Scandinavia	Minor forest species. Native tree. Young trees coppice freely. May be used as a soil improver. Can be mixed into shelterbelts
Willow *Salis spp*	Useful species for wet sites and streamsides	Fast growing useful for conservation and amenity but rarely for timber production. Willow can be used in a variety of ways as a shelterbelt system	Willow rods are regularly used for basket-making and decorative craftwork	Minor forest species. Native tree. Willow is currently being intensively studies as a suitable species for Short Rotation Forestry (Biomass) as an energy source
Whitebeam *Sorbus Aria*	Most fertile mineral soils	Attractive amenity tree also suitable for shelter	Not a timber tree	Minor forest species. Native tree. Tolerant of exposed and coastal sites
Rowan *Sorbus Aucuparia*	Suitable for lowland and hill acidic sites. Will tolerate even alkaline sites	Hardy tree suitable for exposed sites. Widely used amenity tree	Not a timber tree	Minor forest species. Native tree. Offers good support for wildlife

NON-NATIVE BROADLEAVES

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Beech *Fagus Sylvatica*	Well drained, loamy, fertile soils with a preference for soils derived mainly from limestone	Tolerant of shade when young. Creates dense shade and suppresses ground vegetation as it reaches maturity	Excellent timber. Wide range of uses including veneer, furniture, flooring and panelling	Major forest species. Non-native tree. Benefits from a nurse on exposed sites. Useful for under-planting. Grey squirrels can be very destructive particularly to young beech
Sycamore *Acer Pseudoplatanus*	Prefers a moderately fertile free draining soil. Tolerant of calcareous soils	Fast growing tree that seeds easily. Withstands exposure and smoke pollution very well	Tough, durable, white timber with a range of uses. Figured sycamore is much sought after for veneer and furniture manufacture	Major forest species. Non-native tree. Grey squirrels can be very harmful. A windfirm tree. Rich in wildlife value. Valuable for shelter
Poplars *Populus* Hybrid clones	Very exacting species requiring deep, well drained moderately fertile sites	Very fast growing, light demanding tree. Some species susceptible to bacterial canker, select disease resistant clones only	Light hardwood timber with many uses. Suitable for veneer, furniture, joinery, plywood, palletwood and fruit boxes	Potentially major forest species. Non-native tree. Offers great prospects as Short Rotation Forestry species for pulpwood, paper and particle board
Red Oak *Quercus Rubra*	Grows well on poor sandy soils	A fast growing tree, less suited to heavy soils	Yields good pale reddish brown timber, straight grained and easy to cleave but not quite so strong as Q.robur	Minor forest species. Non-native tree. High amenity because of its red and russet colours in the autumn
Horse Chestnut *Aesculus Hippocastanum*	Thrives on all except waterlogged sites but has a preference for fertile soils	An excellent amenity tree used mainly for avenues or as a specimen tree	Timber is soft, weak and of limited use	Minor forest species. Non-native tree
Walnut *Juglans spp*	Deep, well drained, loam textured, moderately fertile soil. Suitable for well sheltered sites with a southerly aspect	J. nigra grows somewhat faster than J. regia but timber may not be as highly figured. Worth pruning to give a clean stem	Strong, tough elastic, high value timber. Valuable decorative timber much used for furniture and veneer	Potentially major forest species. Non-native tree. Abnormal growths called "burr walnut" are much sought after for veneer, an example of diseased or malformed wood being more valuable than healthy timber
Lime *Tilia spp*	Grows on a wide range of sites, but prefers moist fertile limestone soils	Relatively fast growing. Suitable for planting as an amenity tree. Attracts swarms of aphids in summertime causing sticky "honeydew" to cover foliage that drips off to ground vegetation	A very soft, light, white or yellow timber of limited use, although can be used for turnery and wood carving	Minor forest species. Non-native tree. Tree flowers are strongly scented and a great attraction for many insects and a rich source of nectar for bees
Norway Maple *Acer Platanoides*	Prefers a deep, moist, alkaline soil. Tolerates less fertile and drier sites than sycamore. Avoid exposed sites and frost hollows	Fast growing tree when young. An attractive amenity tree. Greenish yellow flower makes a beautiful sight in early spring. Brilliant red, green and gold coloured leaves in the autumn	Same as sycamore and used for similar purposes, but slightly inferior and not as attractively grained	Minor forest species. Non-native tree. Grey squirrel can be very damaging

CONIFERS

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Silka Spruce *Picea Sitchensis*	Prefers wet mineral soils and peats with previous agricultural use. Well suited to high rainfall areas, quite tolerant of exposed sites	Very fast growing tree. Avoid low rainfall areas, very dry and frost prone sites. Do not plant in single rows for shelter	Reasonably valuable whitewood. General-purpose timber known as "white deal". Used widely in the general building and construction industry	Major forest species. Non-native tree. An excellent pulpwood tree for paper, fibre and particle-board industries
Norway Spruce *Picea Abies*	Prefers less acid mineral soils and peats	Not as fast growing or as tolerant of poor sites and exposure as sikta. More suitable for planting in hollows than sikta, being more resistant to frost damage	Somewhat superior to sitka making it also suitable for joinery	Major forest species. Non-native tree. Good drainage is important to avoid windthrow. Poor wildlife tree because of its very dense shade. Suitable for shelter
Douglas Fir *Pseudotsuga Menziesii*	Prefers a moist deep well drained soil of moderate fertility	A fast grower on suitable sites. Ideally suited to sheltered valley slopes. Dislikes waterlogged and shallow soils	An excellent timber of good strength and quality, sometimes referred to as "Oregon pine" it is used for building, flooring, joinery and other uses. Much in demand for transmission poles	Major forest species. Non-native tree. Delayed thinning of crop may lead to windthrow. Poor wildlife value
Lodgepole Pine *Pinus Contorta*	Grows on the poorest of mineral and peat soils	A fast growing pioneering species. Withstands exposure better than most other species. Up to recent times was widely planted on even the most difficult of sites	A general-purpose timber, suitable for building, joinery and other uses	Minor forest species now. Non-native tree. Suffers greatly from "basal sweep" reducing the quality of the log. One of the best shelter tree species
Larch *Larix spp*	European larch prefers moist, well drained, moderately fertile loams while both Japanese and hybrid larch will tolerate a wider range of sites with a preference for high rainfall areas	Larches are strong, light demanding, deciduous conifers. First generation hybrid is normally faster growing than Japanese and both are faster than European	All larches produce dense valuable commercial timber which is both heavier and stronger than most other softwoods	Major forest species. Non-native tree. Larches have a high amenity and wildlife value. Produces light shade allowing ground vegetation
Scots Pine *Pinus Sylvestris*	Thrives on light textured or sandy soils. Tolerant of acid conditions. Avoid poorly drained or alkaline soils and exposure to coastal winds	A strong, light demanding slow growing tree. Can be used as a nurse species. Unsuitable for high elevations or shelter-belting	Good general-purpose softwood timber referred to as "red deal" in the trade. Suitable for construction, flooring, joinery and other uses	Major forest species. Once native but died out, now comes from imported sources. Regarded as the best conifer for both amenity and wildlife. Attracts insects, birds and red squirrels

CONIFERS

SPECIES	OPTIMUM SITE	CHARACTERISTICS	TIMBER QUALITY	REMARKS
Monterey Pine *Pinus Radiata*	Light to medium textured free draining loam soils. Can be used on infertile sandy soils. Not frost hardy	Very fast growing tree but often of poor coarse branched form. Requires careful attention to seed selection preferably from new Zealand. Early and heavy pruning helps to produce a worthwhile crop	Not much known about quality of Irish grown timber. Widely used general-purpose timber in southern hemisphere, New Zealand, Australia and Chile	Minor forest species. Non-native tree. A species with potential if quality seed stock can be produced. Suitable for shelterbelts in coastal areas
Western Red Cedar *Thuja Plicata*	Requires deep free draining fertile soil. Good on alkaline soils. Avoid poor or very acid soils and exposed sites	Shade tolerant moderately fast growing tree. Useful for under-planting	Produces a lightweight timber of moderate strength. Very durable in outdoor situations, suitable for greenhouses, decking and cladding	Minor forest species. Non-native tree. Regarded as good estate tree suitable for screens, mixtures and game cover
Western Hemlock *Tsuga Heterophylla*	Can tolerate acid mineral soils and the better peats. Suitable for low rainfall areas. Avoid planting on sites where previous conifer crop suffered from butt rots	Moderate growth rates. A strong shade bearer and excellent for under-planting. Probably best established under some shade	Good durable timber suitable for quality building purposes	Minor forest species. Non-native tree which has potential for greater use
Noble Fir *Abies Noblis*	Prefers well-drained mineral soils. Tolerates moderately acid soils and is less frost tender than other firs. Has a wide pH tolerance	A fast growing tree unsuitable for very poor and dry sites. Christmas tree production may require somewhat less fertile soils	Timber may be (unfairly) regarded a being of inferior quality. Now mostly grown for Christmas tree production and foliage	Minor forest species now developing multiple uses. Non-native tree. When grown for Christmas tree production need to be well managed to produce a compact well furnished tree
Corsican Pine *Pinus Nigra var. Maritima*	Wide range of soils from sands to heavy clays. Suitable for coastal areas	Moderate growth rates but a good tree for difficult areas such as exposed areas or sandy soil	Similar to scots pine but not quite as good	Minor forest species. Non-native tree. More resistant to smoke pollution than most conifers. Suitable shelter tree
Cupressus like species *Cupressus* *Chamaecyparis* *Cupressocyparis*	Tolerate a wide range of soils except very acid soils and raw peats	Moderate to fast growth rates but very poor stem form or coarse branching In most cases	General purpose softwood uses	Minor forest species. Non-native tree. Macrocarpa suitable for shelter in coastal areas. **Leyland and Lawson although widely used for shelter-belting and screening are in most cases in-appropriate and an intrusion in the landscape**

Appendix No. 18

Screening for Appropriate Assessment

Whitehill
Environmental

Noreen McLoughlin, MSc
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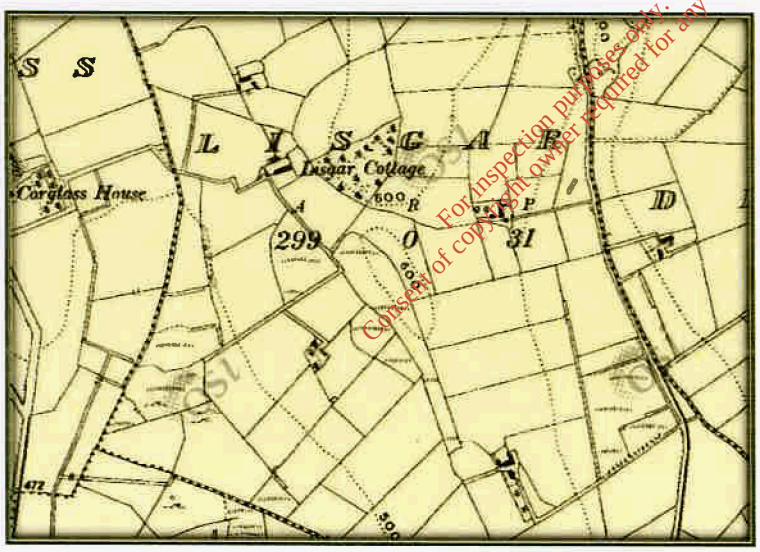
HABITATS DIRECTIVE SCREENING REPORT FOR A PROPOSED DEVELOPMENT AT LISGAR, BAILIEBOROUGH, CO CAVAN

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



Morgan and Kenneth Hall
c/o Paraic Fay
C.L.W. Environmental Planners Ltd
The Mews
23 Farnham Street

January 2021

TABLE OF CONTENTS

1 INTRODUCTION

1.1 BACKGROUND

Article 6 of the EU Habitat's Directive (Council Directive 92/43/EEC) requires that all plans and projects be screened for potential impacts upon Special Areas of Conservation (SACs) or Special Protection Areas (SPAs). The aim of this screening process is to establish whether or not a full Appropriate Assessment of the proposed plan or project is necessary.

A comprehensive assessment of the potential impacts of a proposed development in Lisgar, Bailieborough, Co. Cavan on designated sites was carried out in January 2021 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental. This assessment allowed areas of potential ecological value and potential ecological constraints associated with this proposed development to be identified and it also enabled potential ecological impacts associated with the proposed development on designated sites to be assessed.

The location of the proposed development is within the Zone of Influence of sites designated under European Law. As such and in accordance with Article 6(3) of the EU Habitat's 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.

1.2 REGULATORY CONTEXT

The Birds Directive (Council Directive2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conversation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

Articles 6(3) and 6(4) of this Directive also call for the undertaking of an Appropriate Assessment for plans and projects not directly connected with or necessary to the management of, but which are likely to have a significant effect on any European designated

sites (i.e. SACs and SPAs). This is explained in greater detail in the following section (Section 1.2.2 and Section 1,2.3).

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 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. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as *Natura 2000*. Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

Article 6(4) deals with the steps that should be taken when it is determined, as a result of appropriate assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

The Appropriate Assessment Process

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a designated site's conservation objectives.

The 'Appropriate Assessment' itself is an assessment which must be carried out by the competent authority which confirms whether the plan or project in combination with other plans and projects will have an adverse impact on the integrity of a European site.

Screening for Appropriate Assessment shall be carried out by the competent authority as set out in Section 177U(1) and (2) of the Planning and Development Act 2000 (as amended) as follows:

'(1) A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

(2) A competent authority shall carry out a screening for appropriate assessment under subsection (1) before—

(a) a Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or

(b) consent for a proposed development is given.'

The competent authority shall determine that an Appropriate Assessment is not required if it can be excluded, that the proposed development, individually or in combination with other plans or project will have a significant effect on a European site.

Where the competent authority cannot exclude the potential for a significant effect on a European site, an Appropriate Assessment shall be deemed required.

Where an Appropriate Assessment is required, the conclusions of the Appropriate Assessment Report (Natura Impact Statement (NIS)) should enable the competent authority to ascertain whether the plan or proposed development would adversely affect the integrity of the European site. If adverse impacts on the integrity of a European 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. Under the terms of the Habitats Directive 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 any European sites will not be adversely affected, or (b) after mitigation, where adverse impacts cannot be excluded, there is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

Section 177(V) of the Planning and Development Act 2000 (as amended) outlines that the competent authority shall carry out the Appropriate Assessment, taking into account the Natura Impact Statement (amongst any other additional or supplemental information). A determination shall then be made by the competent authority in line with the requirements of Article 6(3) of the Habitats Directive as to whether the plan or proposed development would adversely affect the integrity of a European site, prior to consent being given.

2 METHODOLOGY

2.1 APPROPRIATE ASSESSMENT

This Statement of Screening for Appropriate Assessment (Stage 1) has been prepared with reference to the following:

- European Commission (2000). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2002). Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;
- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.

The four-stage process is:

Stage 1: Screening – The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether or not these impacts are likely to be significant;

Stage 2: Appropriate Assessment – The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage 3: Assessment of Alternative Solutions – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain – An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this screening statement has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Description of proven mitigation measures.

2.2 STATEMENT OF COMPETENCY

This AA Screening report was carried out by Noreen McLoughlin, BA, MSc, MCIEEM. Noreen has an honours degree in Zoology and an MSc in Freshwater Ecology from Trinity College, Dublin and she has been a full member of the Chartered Institute of Ecology and Environmental Management for over thirteen years. Noreen has over 15 years' experience as a professional ecologist in Ireland.

2.3 DESK STUDIES & CONSULTATION

Information on the site and the area of the proposed development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Parks and Wildlife Service - 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, geology and licensed facilities within the area;
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- CLW Environmental Planners – Site plans, development description and information on potential emissions.
- Cavan County Council – Information on planning history in the area for the assessment of cumulative impacts.

2.4 ASSESSMENT METHODOLOGY

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (ZoI) of the proposed development was defined. Based on the potential impacts and their ZoI, the Natura 2000 sites potentially at risk from direct, indirect or in-combination impacts were identified. The assessment considered all potential impact sources and pathways connecting the proposed development to Natura 2000 sites, in view of the conservation objectives supporting the favourable conservation condition of the site's Qualifying Interests (QIs) or Special Conservation Interests (SCIs).

The conservation objectives relating to each Natura 2000 site and its QIs/SCIs are cited generally for SACs as "to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected", and for SPAs

"to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".

As defined in the Habitat's Directive, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future;

The favourable conservation status of a species is achieved when:

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

Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCOs should be considered in detail.

3 SCREENING

3.1 DEVELOPMENT DESCRIPTION

Morgan and Kenneth Hall have indicated their intention to shortly apply to Cavan County Council for planning permission for the construction of one poultry house on a site of 3.19 hectares at Lisgar, Bailieborough, Co. Cavan. Planning permission also pertains to all ancillary structures and associated site works. The range area of the birds extends to the fields immediately surrounding the poultry houses. Once completed, the proposed house will accommodate 85,000 - 100,000 birds. Permission has recently been granted on this site for the construction of one poultry house (Planning Ref 20/416).

An extract from the planning drawings can be seen in Figure 1.

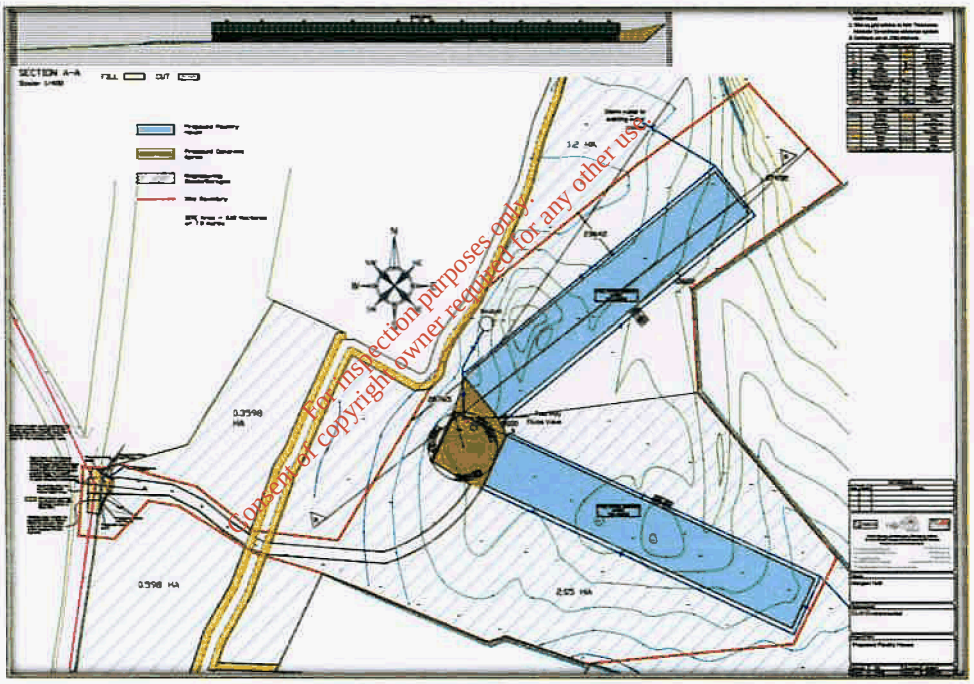


Figure 1 – Proposed Site Plan (as Prepared by Horizon Group)

The operation of the farm will involve the rearing of the chickens from day olds over a period of approximately 6-8 weeks. There will be approximately 5 – 7 cycles of per annum (depending on system), 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 composted and used in the mushroom industry or it will be used 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 complaint with the recommendations of the Department of Agriculture, Food and the 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 that deposited to land by livestock, shall not exceed an amount containing 170 kg nitrogen 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 minimum 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 as evenly as possible.
- An upward-facing splash plate or sludge irrigator on a tanker or umbilical system must not 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 it is likely to flood;
    - The land is frozen, or covered with snow;
    - Heavy rain is forecast within 48 hours;
    - The ground slopes steeply and there is a risk of water pollution, when factors such as

surface 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 metres 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 allow)
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 floow	20m
Exposed cavernous or karstified limestones 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 NIS identified that the existing and proposed 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 NIS prepared and to any further regulatory provisions aimed at preventing pollution or other environmental effects. The applicant is fully aware of his obligations under S.I. 605 of 2017 (as amended) and they will meet all the requirements under this Directive with the proposed application.

3.2 Site Location and Surrounding Environment

The application site is 3.07 hectares and it is located in a rural area within the townland of Lisgar. Access to the site will be via the upgrading of an existing access road, the entrance to which will be just off a local, third class road. The site is 3.1km north of Bailieborough.

The land-use surrounding the site is predominantly agricultural and the main habitat is improved agricultural grassland. Other habitats represented locally include areas of neutral and wet grasslands, mixed woodlands and scrub, hedgerows, treelines and water courses. Castle Lough is 525m north of the site. The site is bounded on all sites by grasslands (improved – wet/neutral). Site location maps can be seen in Figures 2 and 3, whilst an aerial photograph of the site and its surrounding habitats can be seen in Figure 4.

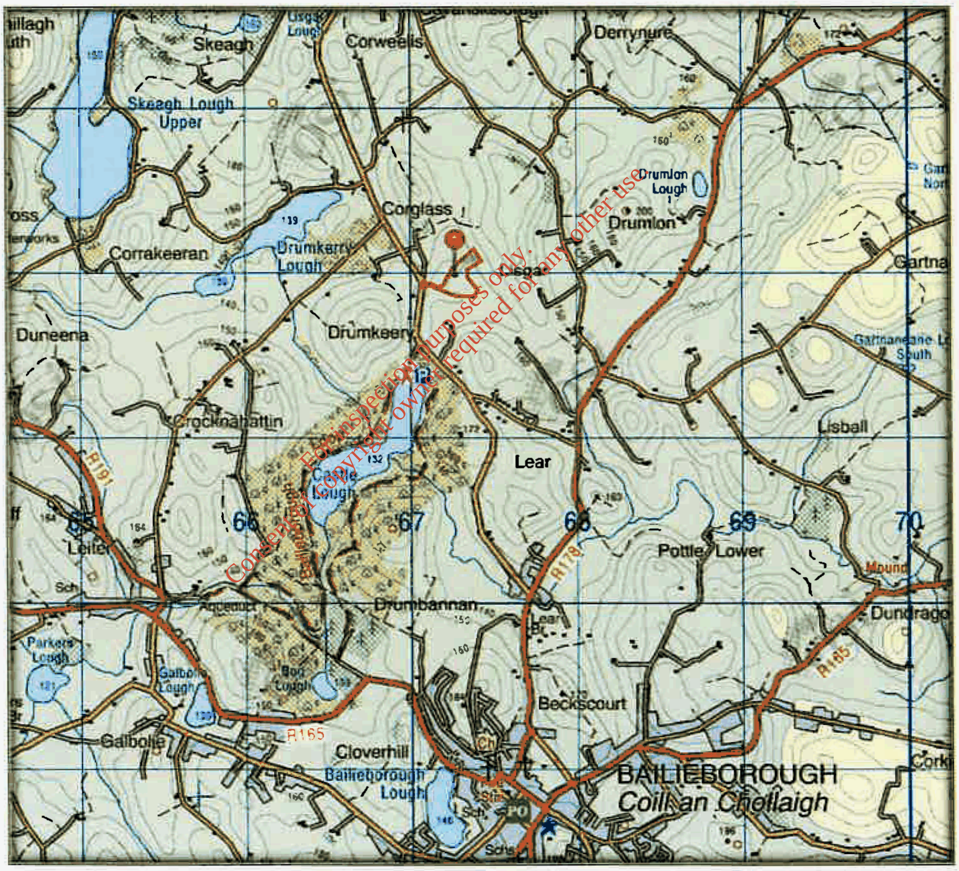


Figure 2 – Map showing the Location of the Proposed Development Site (Pinned)

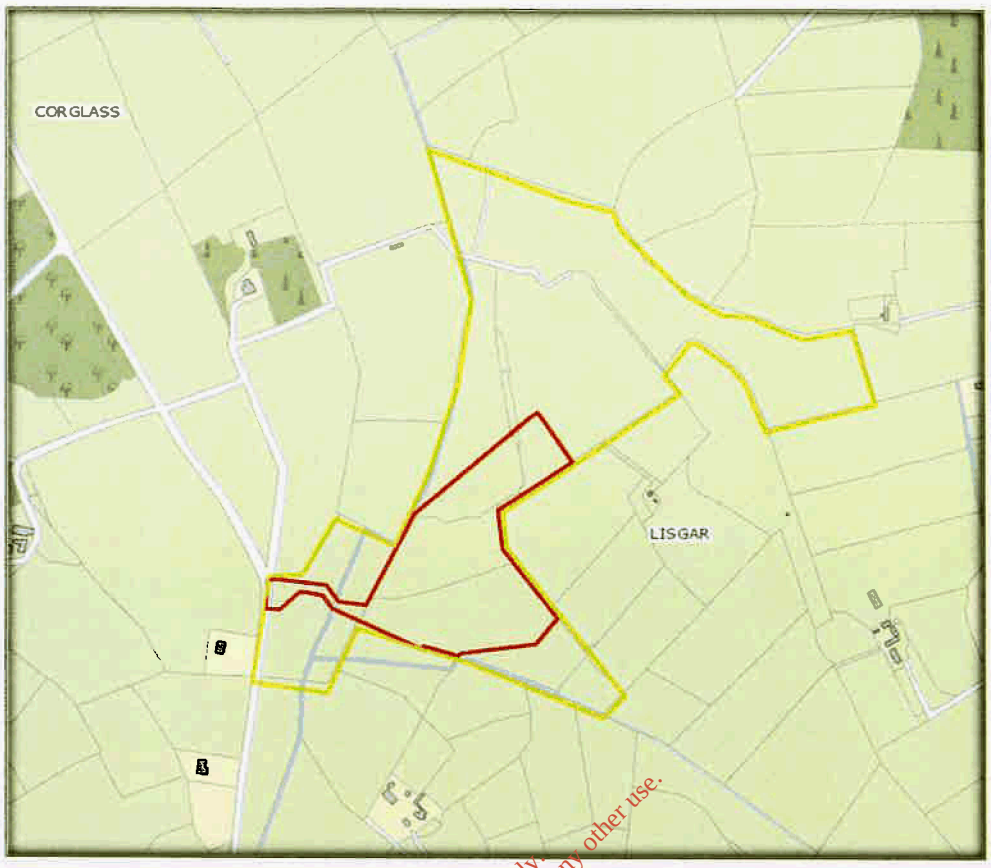


Figure 3 – Map showing the Location of the Proposed Development Site (Outlined in Red). The Range Area of the Birds is Outlined in Yellow.

HABITATS AND SPECIES

The main habitat within the application site currently is improved agricultural grassland, which is poorly drained in parts. There are also areas of scrub within the site. The boundaries of the site consist of hedgerows, and there is a stream flowing along the western site boundary.

An examination of the website of the National Biodiversity Data Centre revealed that there are records for the presence of six protected mammal species from the relevant one km² (N6799) of this proposed development. These species include:

- Daubenton's Bat *(Myotis daubentonii)*
- Eurasian Red Squirrel *(Sciurus vulgaris)*
- European Otter *(Lutra lutra)*
- Lesser Noctule *(Nyctalus leisleri)*
- Pipistrelle *(Pipistrellus pipistrellus sensu lato)*
- Soprano Pipistrelle *(Pipistrellus pygmaeus)*

A custom polygon generated for the site revealed that these records do not pertain to from within the application site itself.

WATER FEATURES AND QUALITY

The application site lies within the Boyne Hydrometric Area and Catchment and the Blackwater (Kells) Sub-Catchment and Sub-Basin. There is a stream flowing along the western boundary of the application site. This stream flows south, entering Castle Lough approximately 500m downstream of the site. The River Blackwater emerges from Castle Lough.

The EPA have defined the ecological status of the watercourses that are close to the application site as being of poor ecological status. The River Blackwater at points upstream and downstream of Castle Lough is of poor status, and it improves to moderate status further downstream. The status of Castle Lough has not been defined. Under the requirements of the Water Framework Directive in Ireland, good status must be achieved in all water bodies within a specified time frame.

Figure 4 – Aerial Photograph of the Proposed Development Site (Outlined in Red).

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 15km of the proposed development have been identified and described according to their site synopsis, qualifying interests and conservation objectives. In addition, any other sites further than this, but potentially within its zone of interest were also considered. The zone of impact may be determined by an assessment of the connectivity between the application site and the designated areas by virtue of hydrological connectivity, atmospheric emissions, flight paths, ecological corridors etc.

There are no Natura 2000 sites within 15km of the application site. There are three within 20km. These designated areas and their closest points to the proposed development site are summarised in Table 2 and a map showing their locations relative to the application site is shown in Figure 5. A full description of the sites can be read on the websites of the National Parks and Wildlife Service (www.npws.ie).

Site Name & Code	Distance	Qualifying Interests	Significant Effects?
Killyconny Bog SAC 000006	16.4km south	• Active Raised Bogs. • Degraded raised bogs still capable of natural regeneration.	*Potential impacts arising from atmospheric emissions will be considered further.*
The River Boyne and River Blackwater SAC 002299	17.5km south / 27km downstream via the River Blackwater	• River lamprey (*Lampetra fluviatilis*) • Salmon (*Salmo salar*) • Otter (*Lutra lutra*) • Alkaline fens • Alluvial forests with alder *Alnus glutinosa* and ash *Fraxinus excelsior*	*Due to hydrological connectivity and potential atmospheric emissions, impacts will be considered further.*
The River Boyne and River Blackwater SPA 004232	17.5km south / 27km downstream via the River Blackwater	• Common Kingfisher *Alcedo atthis*	*Due to hydrological connectivity and potential atmospheric emissions, impacts will be considered further*

Table 2 – Natura 2000 Sites Within 15km of the Proposed Site

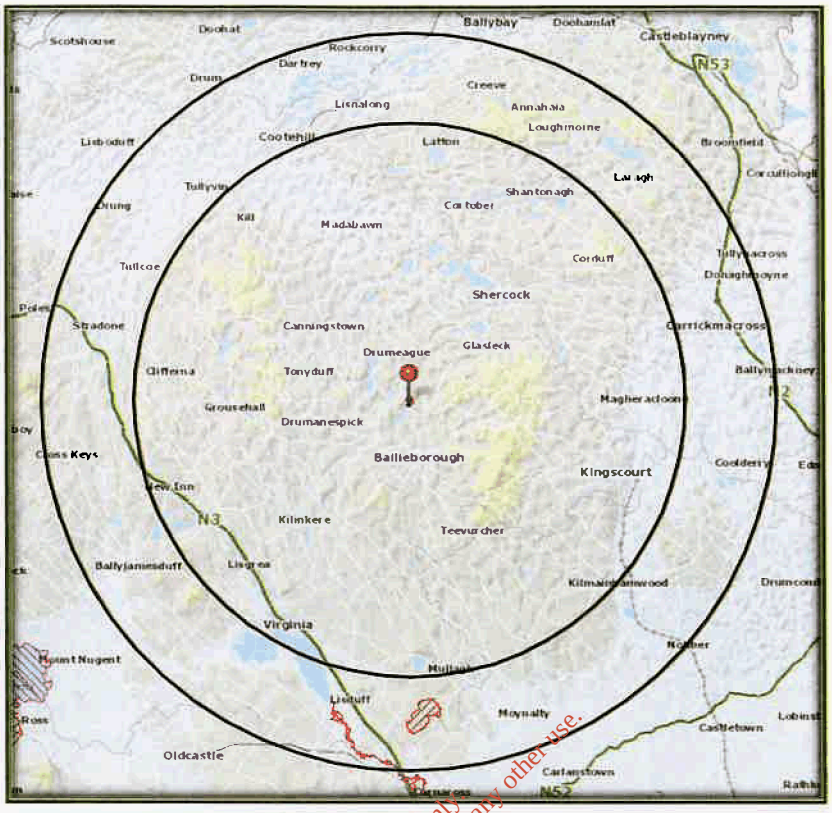


Figure 5 – The Application Site (Red Dot) in relation to the Natura 2000 Sites within 15km (inner circle) and 20km (outer circle). SACs – Red Hatching; SPAs – Pink Hatching

KILLYCONNY BOG (SAC 000006)

Killyconny Bog is a rather small raised bog site located in the north-east of the country. The site contains good examples of the priority Annex I habitat active raised bog and the non-priority habitat degraded raised bog (capable of regeneration). The uncut high bog area is surrounded by extensive cutover surfaces and a portion of this cutover has been planted with conifers. Although the site is rather damaged at present due to drainage effects, it remains one of the largest extant areas of relatively intact raised bog in the north-east of the country and thus is of considerable ecological and biogeographical importance.

THE RIVER BOYNE AND RIVER BLACKWATER SAC 002299

This site comprises most of the freshwater element of the River Boyne from upriver of the Boyne Aqueduct at Drogheda, the Blackwater River as far as Lough Ramor and the principal Boyne tributaries, notably the Deel, Stoneyford and Tremblestown Rivers. This system drains a considerable area of Counties Meath and Westmeath and smaller areas of Cavan and Louth. The rivers flow through a landscape dominated by intensive agriculture, mostly of improved grassland but also cereals. Much of the river channels were subject to arterial drainage schemes in the past. Natural flood-plains now exist along only limited stretches of river, though often there is a fringe of reed swamp, freshwater marsh, wet grassland or deciduous wet woodland. Along some parts, notably between Drogheda and Slane, are stands of tall,

mature mixed woodland. Substantial areas of improved grassland and arable land are included in site for water quality reasons. There are many medium to large sized towns adjacent to but not within the site.

The main channel of the Boyne contains a good example of alluvial woodland of the *Salicetum albo-fragilis* type which has developed on three alluvium islands. Alkaline fen vegetation is well represented at Lough Shesk, where there is a very fine example of habitat succession from open water to raised bog. The Boyne and its tributaries is one of Ireland's premier game fisheries and offers a wide range of angling, from fishing for spring salmon and grilse to sea trout fishing and extensive brown trout fishing. The site is one of the most important in eastern Ireland for *Salmo salar* and it has very extensive spawning grounds. The site also has an important population of *Lampetra fluviatilis*, though the distribution or abundance of this species is not well known. *Lutra lutra* is widespread throughout the site. Some of the grassland areas along the Boyne and Blackwater are used by a nationally important winter flock of *Cygnus cygnus*. Several Red Data Book plants occur within the site, with *Pyrola rotundifolia*, *Poa palustris* and *Juncus compressus*. Also occurring are a number of Red Data Book animals, notably *Meles meles*, *Martes martes* and *Rana temporaria*. The River Boyne is a designated Salmonid Water under the EU Freshwater Fish Directive.

THE RIVER BOYNE AND BLACKWATER (SPA 004232)

The River Boyne and River Blackwater SPA is a long linear site that comprises stretches of the River Boyne and several of its tributaries. Most of the site is in Co Meath but it extends also into Counties Cavan, Louth and Westmeath. It includes the following river sections: The River Boyne from the M1 motorway bridge, west of Drogheda, to the junction with the Royal Canal, west of Longwood, Co Meath; the River Blackwater from its junction with the River Boyne in Navan to the junction with Lough Ramor in Co Cavan; the Tremblestown River (and Athboy River) from the junction with the River Boyne at Kilnagross Bridge to the bridge in Athboy, Co Meath; the Stoneyford River from its junction with the River Boyne to Stonestone Bridge in Co. Westmeath; the River Deel from its junction with the River Boyne to Cummer Bridge, Co.Westmeath. The site includes the river channel and marginal vegetation.

The River Boyne and River Blackwater SPA supports nationally important numbers of *Alcedo atthis*. Other species which occur within the site include *Cygnus olor, Anas crecca, Anas platyrhynchos, Phalacrocorax carbo, Ardea cinerea, Gallinula chloropus, Gallinago gallinago and Riparia riparia.*

3.4 IMPACT ASSESSMENT

The potential effects of the proposed development on the Natura 2000 sites identified above are described below.

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on nearby Natura 2000 site:
The construction and operation of the proposed development at Lisgar will have **no impacts** upon the integrity or the site structure of the designated sites identified. There are no individual elements of the proposed project that are likely to give rise to negative impacts on these Natura 2000 sites. There will be no impacts upon designated habitats or species arising from the predicted emissions from this facility. There is an adequate distance between the proposed development site and designated areas to ensure that no direct impacts will occur. 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 legalisation 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 proposed operation of the poultry farm at Lisgar will be negligible. The land-spreading of the poultry manure produced at the proposed facility 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 fertiliser will replace the use of chemical fertiliser; therefore, there will be no overall increase in the amount of nutrients spread. The wash water generated during the maintenance of the facility will be land-spread on lands farmed by the applicant's family. Land-spreading will only be done on areas of improved agricultural grasslands. The receipt lands are not adjacent to or connected to any Natura 2000 site. The use of these lands for land-spreading of water will have no impacts upon the integrity or conservation objectives of any Natura 2000 site. All land-spreading will be done in accordance with the Nutrient Management Plan for the farm and in accordance with S.I. 605 of 2017 (as amended). All farmers that receive the manure from the proposed 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 legalisation. 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: There are three Natura 2000 sites within 20km of the application site. The closest of these is Killyconny Bog SAC and this is 16.4km south of the site. The River Boyne and Blackwater SAC / SPA is 17.5km south and 27km downstream. In this instance, these distances are sufficient to ensure that no significant effects will arise.

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: Neither the construction nor the operation of the proposed development will result in any direct emissions to the Natura 2000 sites identified. Clean surface water from the site will be directed to local watercourses. The site is 27km upstream of the River Boyne and Blackwater SAC / SPA. Given this separation distance, and the small scale of the proposed development, it can be concluded that any significant effects arising from the proposed development can be ruled out.

Any associated land-spreading of the manure or wash 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 the development of this facility, a SCAIL model (Simple Calculation of Atmospheric Impact Limits) was run by CLW Environmental Planners to determine the potential impacts on the closest designated sites. This model was run for 100,000 birds. The SCAIL model predicted that the deposition of ammonia and nitrogen at the edge of the designated areas would be de-minimus and that there would be no significant effects upon the designated sites arising from emissions from the proposed development. A summary of the SCAIL data for all sites is provided in Appendix I.

In-Combination / Cumulative Impacts: The proposed application was considered in combination with other developments or proposed developments in the Lisgar area. 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 legalisation defined in S.I. 605 of 2017 (as amended) regarding manure storage, the maintenance of buffer zones, prohibited spreading periods, minimisation of soiled water and general good agricultural practice, etc. 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: There will be no additional transportation requirements resulting from the proposed development and associated works that will have any impact upon the Natura 2000 sites identified.

Duration of construction, operation, decommissioning etc: Once construction begins, it should be complete within one year. Operation will be ongoing.

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

Reduction of habitat area: The proposed development lies outside the boundaries of the Natura 2000 sites identified in Section 3.3. There will be no reduction of designated habitat area. There will be no interference with the boundaries of any designated site.

Disturbance to key species: There will be no direct disturbance to any species listed in Annex I of the Birds Directive or Annex II of the Habitats Directive. All rodenticide used on site will be used responsibly and in accordance with the best practice guidelines issued the *Campaign for Responsible Rodenticide Use*.

Habitat or species fragmentation: There will be no habitat or species fragmentation within any SAC or SPA. No ecological corridors between the proposed site and any 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 surface or ground water quality. There will be no negative impacts upon the water quality in any designated site. **Habitat or species fragmentation:** There will be no habitat or species fragmentation within any SAC or SPA. No ecological corridors between the proposed site and any 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 surface or ground water quality. There will be no negative impacts upon the 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 not considered likely that there will be any impacts on the key relationships that define the structure or function of the Natura 2000 sites identified.

Provide indicators of significance as a result of the identification of effects set out above in terms of:
Loss - Estimated percentage of lost area of habitat: None **Fragmentation**: None **Disruption & disturbance**: None **Change to key elements of the site (e.g. water quality etc.):** None

3.5 FINDING OF NO SIGNIFICANT EFFECTS

Finding of No Significant Effects Report Matrix	
Name of project	Construction of Two Range Poultry Houses at Lisgar, Bailieborough, Co. Cavan
Name and location of Natura 2000 site	There are three Natura 2000 sites within 20km of the application site. The closest of these is Killyconny Bog SAC and this is 16.4km south of the site. The River Boyne and Blackwater SAC / SPA is 17.5km south and 27km downstream.
Description of project	A Small Scale Agricultural Development (Poultry)
Is the project directly connected with or necessary to the management of the site?	No
Are there other projects or plans that together with project being assessed could affect the site?	All farm land surrounding this proposed 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 site	No impacts likely
Explain why these effects are not considered significant	Not applicable as there is no potential for negative impacts
Describe how the project is likely to affect species designated under Annex II of the Habitats Directive.	No impacts likely
Data Collected to Carry out the Assessment	
Who carried out the assessment	Noreen McLoughlin, MSC, MCIEEM. Consultant Ecologist
Sources of data	NPWS, EPA, National Biodiversity Data Centre, Cavan County Council
Level of assessment completed	Stage1 Appropriate Assessment Screening
Where can the full results of the assessment be accessed and viewed	Full results included

4 APPROPRIATE ASSESSMENT CONCLUSION

In accordance with Article 6(3) of the Habitats Directive, the relevant case law, established best practice and the precautionary principle, this AA Screening Report has examined the details of the project in relation to the relevant Natura 2000 sites within 15km of the application site. This report has analysed the potential impacts and effects of the proposed project on the Special Conservation Interests of these designated sites. It has evaluated the significance of these potential impacts and effects in view of these sites' conservation objectives.

In view of best scientific knowledge and on the basis of objective information, it can be concluded that this application, whether individually or in combination with other plans and projects, will have no significant effect upon the Natura 2000 sites. It is of the opinion of this author that this application does not need to proceed to Stage II of the Appropriate Assessment process.

Noreen Mc Loughlin

Noreen McLoughlin, MSc, MCIEEM.
Ecologist.

(PI Insurance details available on request)

Appendix I: SCAIL DATA AND ASSESSMENTS

AMMONIA

In order to predict atmospheric emissions of ammonia from facility at Lisgar, a SCAIL model (Simple Calculation of Atmospheric Impact Limits) was run by CLW Environmental Planners Ltd to determine the potential impacts of this farm on designated sites. In this instance a number of factors were taken into account, such as the use of natural ventilation. The results of the SCAIL outputs for ammonia are presented below. These figures are based on 100,000 birds.

Killyconny Bog SAC				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
2.75 µg/m³	0.0122 µg/m³	2.762 µg/m³	1 µg/m³	1.23%
SPA River Boyne and Blackwater SAC				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
2.67 µg/m³	0.0115 µg/m³	2.681 µg/m³	1 µg/m³ - 3 µg/m³	1.15% - 0.38%
River Boyne and Blackwater SPA				
Background NH_3	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL Range**
2.67 µg/m³	0.0115 µg/m³	2.681 µg/m³	1 µg/m³ - 3 µg/m³	1.15% - 0.38%

Ammonia Loadings Arising from Proposed Development on Natura 2000 Sites

NITROGEN LEVELS

The SCAIL results for the predicted deposition of nitrogen are presented in the table below. For the SACs, either the SCAIL critical loads or those defined by APIS (Air Pollution Information System) were used.

Killyconny Bog SAC				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL**
16.33 kg N/ha/yr	0.06 kg N/ha/yr	16.39 kg N/ha/yr	5 kg N/ha/yr (Active Raised Bog)	1.2%
			5 kg N/ha/yr (Degraded Bog)	1.2%
River Boyne and Blackwater SAC				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL**
17.09 kg N/ha/yr	0.06 kg N/ha/yr	17.15 kg N/ha/yr	15 kg N/ha/yr (alkaline fen)	0.4%
			Alluvial Forests are Not Considered Nitrogen Sensitive	-
River Boyne and Blackwater SPA				
Background N	**Process Contribution**	**Total Conc.**	**Critical Load**	**% of CL**
17.09 kg N/ha/yr	0.06 kg N/ha/yr	17.15 kg N/ha/yr	15 kg N/ha/yr (alkaline fen)	0.4%
			Alluvial Forests are Not Considered Nitrogen Sensitive	-

Nitrogen Loadings Arising from Proposed Development on Natura 2000 Sites

Appendix No. 19

European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2017 – S.I. 605 of 2017

STATUTORY INSTRUMENTS.

S.I. No. 605 of 2017

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

S.I. No. 605 of 2017

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

CONTENTS

PART 4

PREVENTION OF WATER POLLUTION FROM FERTILISERS AND CERTAIN ACTIVITIES

PART 5

GENERAL

PART 6

FUNCTIONS OF PUBLIC AUTHORITIES

SCHEDULE 1

SOIL TEST

SCHEDULE 2

CRITERIA AS TO STORAGE CAPACITY AND NUTRIENT MANAGEMENT

SCHEDULE 3

STORAGE PERIODS FOR LIVESTOCK MANURE

SCHEDULE 4

PERIODS WHEN APPLICATION OF FERTILISERS TO LAND IS PROHIBITED

S.I. No. 605 of 2017

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

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.

[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.

Notice of the making of this Statutory Instrument was published in "Iris Oifigiúil" of 2nd January, 2018.

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 livestock manure, or

(*c*) the occupier has a contract for the transfer of the manure to a person registered under and in accordance with the European Communities (Transmissible Spongiform Encephalopathies and Animal By-products) Regulations 2008 S.I. 252 of 2008 to undertake the transport of manure.

(2) Subject to sub-article (3), the capacity of facilities for the storage of livestock manure may be less than the capacity specified in Article 12 or 13, as appropriate, in relation to—

(*a*) deer, goats or sheep which are out-wintered at a grassland stocking rate which does not exceed 130 kg nitrogen at any time during the period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure, or

(*b*) livestock (other than dairy cows, deer, goats or sheep) which are out-wintered at a grassland stocking rate which does not exceed 85 kg nitrogen at any time during the period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure.

(3) Sub-article (2) shall apply only in relation to a holding where all the following conditions are met—

(*a*) all the lands used for out-wintering of the livestock are comprised in the holding,

(*b*) the out-wintered livestock have free access at all times to the required lands,

(*c*) the amount of manure produced on the holding does not exceed an amount containing 140kg of nitrogen per hectare per annum,

(*d*) severe damage to the surface of the land by poaching does not occur, and

(*e*) the reduction in storage capacity is proportionate to the extent of out-wintered livestock on the holding.

(4) In this article, a grassland stocking rate of 130 kg or 85 kg of nitrogen, as the case may be, means the stocking of grassland on a holding at any time by such numbers and types of livestock as would in the course of a year excrete waste products containing 130 kg or 85 kg of nitrogen, as the case may be, per hectare of the grassland when calculated in accordance with the nutrient excretion rates for livestock specified in Table 6 of Schedule 2.

PART 3

NUTRIENT MANAGEMENT

Interpretation, commencement etc

15. (1) In this Part, "crop requirement", in relation to the application of fertilisers to promote the growth of a crop, means the amounts and types of fertilisers which are reasonable to apply to soil for the purposes of promoting the growth of the crop having regard to the foreseeable nutrient supply available to the crop from the fertilisers, the soil and from other sources.

(2) The amount of nitrogen or phosphorus specified in Table 7 or 8 of Schedule 2, as the case may be, in relation to a type of livestock manure or other substance specified in the relevant table shall for the purposes of this Part be deemed to be the amount of nitrogen or phosphorus, as the case may be, contained in that type of manure or substance except as may be otherwise specified in a certificate issued in accordance with Article 32.

(3) The amount of nitrogen or phosphorus available to a crop from a fertiliser of a type which is specified in Table 9 of Schedule 2 in the year of application of

that fertiliser shall, for the purposes of this Part, be deemed to be the percentage specified in that table of the amount of nitrogen or phosphorus, as the case may be, in the fertiliser.

(4) The amount of nitrogen or phosphorus available to a crop from an organic fertiliser of a type which is not specified in Table 9 of Schedule 2 shall be deemed to be the amount specified in the table in relation to cattle manure or, where supported by the necessary analysis, the amount of nitrogen estimated on the basis of the C:N ratio of the compost in accordance with Table 9A unless a different amount has been determined in relation to that fertiliser by, or with the agreement of, the relevant local authority or the Agency, as the case may be.

(5) A reference in this Part to the "nitrogen index" or the "phosphorus index" in relation to soil is a reference to the index number assigned to the soil in accordance with Table 10 or 11 of Schedule 2, as the case may be, to indicate the level of nitrogen or phosphorus available from the soil.

Duty of occupier in relation to nutrient management

16. (1) An occupier of a holding shall take all such reasonable steps as are necessary for the purposes of preventing or minimising the application to land of fertilisers in excess of crop requirement on the holding.

(2) 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 100m^3 or more of water per day or serving 500 or more persons,

(*b*) 100m of the abstraction point (other than an abstraction point specified in paragraph (*a*)) of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10m^3 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, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10m^3 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 $10m^3$ 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 substances to water, and

(*d*) where relevant, the technical specifications set out in the document "Groundwater Protection Schemes" published in 1999 (ISBN 1-899702-22-9) or any subsequent published amendment of that document.

(10) Where a local authority specifies a distance in accordance with either of sub-articles (3), (5), (6) or (7) the authority shall, as soon as may be—

(*a*) notify the affected landowners, Irish Water, the Agency and the Department of Agriculture, Food and the Marine of the distance so specified,

(*b*) send to the Agency a summary of the report of any investigations undertaken and the reasons for specifying the alternative distance,

(*c*) make an entry in the register maintained in accordance with Article 30(6), and

(*d*) publish and maintain on the local authority website an updated schedule of setback distances specified for each drinking water supply.

(11) The 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 $10m^3$ 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 their individual areas,

(*d*) livestock numbers and type,

(*e*) an estimation of the annual fertiliser requirement for the holding and a copy of any Nutrient Management Plan prepared in relation to the holding,

(*f*) quantities and types of chemical fertilisers moved on to or off the holding, including opening stock, records of purchase and closing stock,

(*g*) livestock manure and other organic fertilisers moved on to or off the holding including quantities, type, dates and details of exporters and

importers, as the case may be, in a format specified by the Minister for Agriculture, Food and the Marine,

(*h*) the results of any soil tests carried out in relation to the holding,

(*i*) the nature and capacity of facilities on the holding for the storage of livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, 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 livestock on the holding, and

(*k*) the location of any abstraction point of water used for human consumption from any surface waters, borehole, spring or well.

(2) Where fertiliser is used on a holding and a certificate of the type mentioned in Article 15 or 20 was issued in relation to that fertiliser in accordance with Article 32, a copy of the certificate shall be retained and be available for inspection on the holding for a period of not less than five years from the expiry of validity of the certificate.

(3) Records shall be prepared for each calendar year by 31 March of the following year and shall be retained for a period of not less than five years.

(4) Notwithstanding sub-paragraphs (1), (2) and (3), an occupier shall, where requested by the Minister, the Minister for Agriculture, Food and the Marine, a local authority or the Agency, provide such information as is requested relating to the movement of organic fertilisers on or off the holding.

False or misleading information

24. A person shall not compile information which is false or misleading to a material extent or furnish any such information in any notice or other document for the purposes of these Regulations.

Authorised person

25. (1) In this Article, "authorised person" means—

(*a*) a person who is an authorised person for the purposes of section 28 of the Local Government (Water Pollution) Act, 1977 (No. 1 of 1977), or

(*b*) a person appointed under sub-article (11) to be an authorised person for the purposes of these Regulations.

(2) An authorised person may for any purpose connected with these Regulations—

(*a*) enter and inspect any premises for the purposes of performing a function under these Regulations or of obtaining any information which he or she may require for such purposes,

(*b*) at all reasonable times, or at any time if he or she has reasonable grounds for believing that there is or may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, arising from the carrying on of an activity at a premises, enter any premises and bring onto those premises such other persons (including a member of the Garda Síochána) or equipment as he or she may consider necessary, or

(*c*) at any time if he or she has reasonable grounds for suspecting there may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, involving the use of any vehicle halt and board the vehicle and require the driver of the vehicle to take it to a place designated by the authorised person, and such a vehicle may be detained at that place by the authorised person for such period as he or she may consider necessary.

(3) An authorised person shall not enter into a private dwelling under this article unless one of the following conditions applies—

(*a*) the entry is effected with the consent of the occupier or

(*b*) the entry is authorised by a warrant issued under sub-article (7).

(4) Whenever an authorised person enters any premises or boards any vehicle, under this article, he or she may—

(*a*) take photographs and carry out inspections, record information on data loggers, make tape, electrical, video or other recordings,

(*b*) carry out tests and make copies of documents (including records kept in electronic form) found therein and take samples,

(*c*) monitor any effluent, including trade effluent or other matter, which is contained in or discharged from a premises,

(*d*) carry out surveys, take levels, make excavations and carry out examinations of depth and nature of subsoil,

(*e*) require that the premises or vehicle or any part of the premises or anything in the premises or vehicle shall be left undisturbed for a specified period,

(*f*) require information from an occupier of the premises of any occupant of the vehicle or any person employed on the premises or any other person on the premises,

(*g*) require the production of, or inspect, records (including records held in electronic form) or documents, or take copies of or extracts from any records or documents, and

(*h*) remove and retain documents and records (including documents held in electronic form) for such period as may be reasonable for further examination,

which the authorised person, having regard to all the circumstances, considers necessary for the purposes of exercising any function under these Regulations.

(5) (*a*) An authorised person who, having entered any premises or boarded any vehicle pursuant to these Regulations, considers that a risk to the environment arises from the carrying on of an activity at the premises or involving the use of the vehicle, may direct the owner or occupier of the premises or the driver of the vehicle to take such measures as are considered by that authorised person to be necessary to remove that risk.

(*b*) If the owner, occupier or driver referred to in paragraph (*a*) fails to comply with a direction of an authorised person under this subsection, the authorised person may do all things as are necessary to ensure that the measures required under the direction are carried out and the costs incurred by him or her in doing any such thing shall be recoverable from the owner or occupier by him or her, or the person by whom he or she was appointed.

(6) A person shall not—

(*a*) refuse to allow an authorised person to enter any premises or board any vehicle or to bring any person or equipment with him or her in the exercise of his or her powers,

(*b*) obstruct or impede an authorised person in the exercise of any of his or her powers,

(*c*) give to an authorised person information which is to his or her knowledge false or misleading in a material respect, or

(*d*) fail or refuse to comply with any direction or requirement of an authorised person.

(7) (*a*) Where an authorised person in the exercise of his or her powers under this Article is prevented from entering any premises, or if the authorised person has reason to believe that evidence related to a suspected offence under these Regulations may be present in any premises and that the evidence may be removed therefrom or destroyed, or if the authorised person has reason to believe that there is a significant immediate risk to the environment, the authorised person or the person by whom he or she was appointed may apply to the District Court for a warrant under this Article authorising the entry by the authorised person onto or into the premises.

(*b*) If, on application being made to the District Court under this Article, the District Court is satisfied, on the sworn information of the authorised person that he or she has been prevented from entering a premises, the Court may issue a warrant authorising that person, accompanied, if the Court deems it appropriate by another authorised person or a member of the Garda Síochána, as may be specified in the warrant, at any time or times within one month from the date of the issue of the warrant, on production if so requested of the warrant, to enter, if need be by force, the premises concerned and exercise the powers referred to in sub-article (4) or (5).

(8) An authorised person may, in the exercise of any power conferred on him or her by these Regulations involving the bringing of any vehicle to any place, or where he or she anticipates any obstruction in the exercise of any other power conferred on him or her by these Regulations, request a member of the Garda Síochána to assist him or her in the exercise of such a power and any member of the Garda Síochána to whom he or she makes such a request shall comply with this request.

(9) Any certificate or other evidence given, or to be given, in respect of any test, examination or analysis of any sample shall, in relation to that sample, be evidence, without further proof, of the result of the test, examination or analysis unless the contrary is shown.

(10) When exercising any power conferred on him or her by these Regulations an authorised person shall, if requested by any person affected, produce a certificate or other evidence of his or her appointment as an authorised person.

(11) A person may be appointed as an authorised person for the purposes of these Regulations by the Minister, the Minister for Agriculture, Food and the Marine or the Agency.

(12) In this article "premises" includes land whether or not there are any structures on the land.

Offences and related matters

26. (1) A person who contravenes a provision of Parts 2 to 5 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 otherwise the detailed arrangements made to enable public participation in the preparation, review or revision of an action programme, including—

(*a*) the address to which comments in relation to those proposals may be submitted, and

(*b*) the date by which such comments should be received.

(7) In this Article "interested parties" includes persons who—

(*a*) are carrying on any business which relies upon the water environment or which is affected, or likely to be affected, by the action programme, or

(*b*) are carrying on any activities which have or are likely to have an impact on water status, or

(*c*) have an interest in the protection of the water environment whether as users of the water environment or otherwise.

Agency

29. (1) The Agency shall prepare at four-yearly intervals a report in accordance with Article 10 of the Nitrates Directive and shall submit such report to the Minister.

(2) The Agency shall undertake a review of progress made in implementing these Regulations and shall submit a report to the Minister by 30 June 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 their functions as may be requested by the Agency for the purposes of these Regulations.

(5) Each monitoring programme prepared by the Agency for the purposes of Article 10 of European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003) shall include provision for such monitoring as is necessary for the purposes of these Regulations.

(6) The Agency shall, from time to time as it considers appropriate, make recommendations and give directions to a local authority in relation to the monitoring and inspections to be carried out, or other measures to be taken, by the authority for the purposes of these Regulations and may revise such recommendations and directions at such times thereafter as the Agency considers appropriate.

(7) The powers, duties and functions assigned to the Agency by these Regulations are additional to, and not in substitution for, the powers, duties and functions assigned to the Agency by section 63 of the Environmental Protection Agency Act, 1992 (No. 7 of 1992) or any other statute.

Local authorities

30. (1) A local authority shall carry out, or cause to be carried out, such monitoring of surface waters and groundwaters at selected measuring points within its functional area as makes it possible to establish the extent of pollution in the waters from agricultural sources and to determine trends in the occurrence and extent of such pollution.

(2) A local authority shall carry out or cause to be carried out such inspections of farm holdings as is necessary for the purposes of these Regulations and shall aim to co-ordinate its inspection activities with inspections carried out by other public authorities.

(3) For the purposes of sub-article (2) a local authority shall aim to develop co-ordination arrangements with other public authorities with a view to promoting consistency of approach in inspection procedures and administrative efficiencies between public authorities and to avoid any unnecessary duplication of administrative procedures and shall have regard to any inspection protocol which may be developed by the Minister, following consultation with the Minister for Agriculture, Food and the Marine.

(4) A local authority shall, in the exercise of its functions for the purposes of these Regulations—

(*a*) consult to such extent as it considers appropriate with the Minister, the Minister for Agriculture, Food and the Marine, the Agency, 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 content of the fertiliser in question has been assessed on the basis of appropriate methodologies based on net farm balance and is as specified in the certificate.

(2) A certificate issued under this Article shall be valid for such period, not exceeding twelve months, as shall be specified in the certificate.

(3) In this Article "competent authority" means—

(*a*) the Agency in relation to fertiliser arising in an activity in relation to which there is in force a licence under Part IV of the Act of 1992, and

(*b*) the Minister for Agriculture, Food and the Marine in relation to any other fertiliser.

(4) Notice of the methodologies used for the purposes of sub-article (1) shall be notified to the European Commission by the competent authority.

Exemption for exceptional circumstances for research

33. (1) A temporary exemption from a requirement of these Regulations may be granted to a person by the Agency or the Minister for Agriculture, Food and the Marine in the case of exceptional circumstances relating to research.

(2) A temporary exemption for the purposes of sub-article (1) shall be granted by way of certificate issued to a person by the Agency or the Minister for Agriculture, Food and the Marine and shall be subject to such conditions, if any, as are specified in the certificate.

(3) A certificate issued for the purposes of this Article shall specify the nature, extent and duration of the exemption to which the certificate relates and a copy of the certificate shall be sent as soon as may be to the relevant local authority.

Transitional provisions

34. Notwithstanding Articles 16 and 26 and sub-article (2), the application to land of phosphorus in excess of the quantities prescribed by Article 16 shall not be an offence for the purposes of Article 16 in a case where—

(*a*) the excess arises from the application of 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.

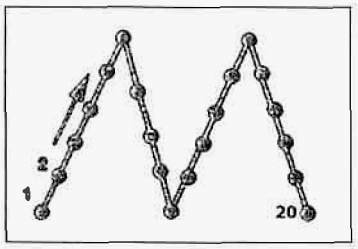
(*c*) Any unusual spots such as old fences, ditches, drinking troughs, dung or urine patches or where fertiliser or lime has been heaped or spilled shall be avoided.

(*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 2

CRITERIA AS TO STORAGE CAPACITY AND NUTRIENT MANAGEMENT

Table 1 Slurry storage capacity required for sows and pigs

Unit type	m^3/week[1]				
Water:meal ratio changing for finishers only	2.0:1	2.5:1	3.0:1	3.5:1	4.0:1
Breeding unit (per sow place)	-	-	-	-	0.174
Integrated unit (per sow place)	0.312	0.355	0.398	0.441	0.483
Finishing unit (per pig)	0.024	0.031	0.039	0.046	0.053

[1]An additional 200mm freeboard must be provided in all covered tanks and 300mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 2 Slurry storage capacity required for cattle, sheep and poultry

Livestock type	m^3/week[1]
Dairy cow	0.33
Suckler cow	0.29
Cattle > 2 years	0.26
Cattle (18-24 months old)	0.26
Cattle (12-18 months old)	0.15
Cattle (6-12 months old)	0.15
Cattle (0-6 months old)	0.08
Lowland ewe	0.03
Mountain ewe	0.02
Lamb-finishing	0.01
Poultry — layers per 1000 birds (30% DM)	0.81

[1]An additional 200mm freeboard must be provided in all covered tanks and 300mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 3 Storage capacity required for dungstead manure

Livestock type	Solid fraction (m^3/week)	Seepage fraction (m^3 /week)[1]
Dairy cow	0.28	0.04
Suckler cow	0.25	0.03
Cattle > 2 years	0.23	0.02
Cattle (18-24 months old)	0.23	0.02
Cattle (12-18 months old)	0.13	0.01
Cattle (6-12 months old)	0.13	0.01
Cattle (0-6 months old)	0.07	0.01

[1]Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 4 Average net rainfall during the specified storage period

County	Millimetres per week
Carlow	24
Cavan	27
Clare	32
Cork	37
Donegal	38
Dublin	17
Galway	34
Kerry	45
Kildare	18
Kilkenny	23
Laois	22
Leitrim	33
Limerick	26
Longford	23
Louth	20
Mayo	40
Meath	19
Monaghan	23
Offaly	20
Roscommon	26
Sligo	32
Tipperary	27
Waterford	31
Westmeath	21
Wexford	25
Wicklow	33

Article 9

Table 5 Storage capacity required for effluent produced by ensiled forage

Crop	Minimum storage requirement	(m^3/100 tonnes)
	Short Term Storage[1]	Full Storage
Grass	7	21
Arable silage	7	21
Maize	4	10
Sugar beet tops	15	50

[1]Only permitted where a vacuum tanker or an irrigation system is available on the holding.

Article 14 and 20

Table 6 Annual nutrient excretion rates for livestock

Livestock type	Total Nitrogen	Total Phosphorus
	kg/year	kg/year
Dairy cow	85	13
Suckler cow	65	10
Cattle (0-1 year old)	24	3
Cattle (1-2 years old)	57	8
Cattle > 2 years	65	10
Mountain ewe & lambs	7	1
Lowland ewe & lambs	13	2
Mountain hogget	4	0.6
Lowland hogget	6	1
Goat	9	1
Horse (>3 years old)	50	9
Horse (2-3 years old)	44	8
Horse (1-2 years old)	36	6
Horse foal (< 1 year old)	25	3
Donkey/small pony	30	5
Deer (red) 6 months — 2 years	13	2
Deer (red) > 2 years	25	4
Deer (fallow) 6 months — 2 years	7	1
Deer (fallow) > 2 years	13	2
Deer (sika) 6 months — 2 years	6	1
Deer (sika) > 2 years	10	2
Breeding unit (per sow place)	35	8
Integrated unit (per sow place)	87	17
Finishing unit (per pig place)	9.2	1.7
Laying hen per bird place	0.56	0.12
Broiler per bird place	0.24	0.09
Turkey per bird place	1	0.4

Article 15 and 20

Table 7 Amount of nutrient contained in 1m³ of slurry

Livestock type	Total Nitrogen (kg)	Total Phosphorus (kg)
Cattle	5.0	0.8
Pig	4.2	0.8
Sheep	10.2	1.5
Poultry — layers 30% DM	13.7	2.9

For the purposes of calculation, assume that 1 m^3 = 1,000 litres = 1 tonne.

Table 8 Amount of nutrients contained in 1 tonne of organic fertilisers other than slurry

Livestock type		Total Nitrogen (kg)	Total Phosphorus (kg)
Poultry manure	broilers/deep litter	11.0	6.0
	layers 55% dry matter	23.0	5.5
	turkeys	28.0	13.8
Dungstead manure (cattle)		3.5	0.9
Farmyard manure		4.5	1.2
Spent mushroom compost		8	1.5
Sewage sludge		Total nitrogen and total phosphorus content per tonne shall be declared by the supplier in accordance with the Waste Management (Use of Sewage Sludge in Agriculture) Regulations,1998 to 2001 and any subsequent amendments thereto.	
Dairy processing residues and other products not listed above		Total nitrogen and total phosphorus content per tonne based on certified analysis shall be provided by the supplier.	

Article 15

Table 9 Nutrient availability in fertilisers

Fertiliser	Availability (%)		
	Nitrogen	Phosphorus	
		Soil Index 1& 2	Soil Index 3 & 4
Chemical	100	100	100
Pig and poultry manure	50	50	100
Farmyard manure	30	50	100
Spent mushroom compost	20	50	100
Cattle and other livestock manure (including that produced on the holding)	40	50	100

Table 9A Nutrient availability in compost

Compost C:N ratio[1]	N availability (%)
<10	25
12.5	17.5
15.0	10
17.5	5.5
>20	0.0

[1]The determination of the C:N ratio shall be based on a methodology agreed with the Agency or the Minister for Agriculture, Food and the Marine

Table 10 Determining nitrogen index for tillage crops

Tillage crops that follow permanent pasture			
Nitrogen Index			
Index 1	Index 2	Index 3	Index 4
The 5th tillage crop following permanent pasture. For subsequent tillage crops use the continuous tillage table.	The 3rd or 4th tillage crop following permanent pasture. If original permanent pasture was cut only, use index 1.	The 1st or 2nd tillage crop following permanent pasture (see also Index 4). If original permanent pasture was cut only, use index 2.	The 1st or 2nd tillage crop following very good permanent pasture which was grazed only.
Continuous tillage: — crops that follow short leys (1-4 years) or tillage crops			
Previous crop			
Index 1	Index 2	Index 3	Index 4
Cereals Maize	Sugar beet Fodder beet Potatoes Mangels Kale Oil seed rape, Peas, Beans		
	Leys (1-4 years) grazed or cut and grazed		
	Swedes removed	Swedes grazed in situ	
Vegetables receiving less than 200 kg/ha nitrogen	Vegetables receiving more than 200 kg/ha nitrogen		

Table 11 Phosphorus index system

Soil phosphorus index	Soil phosphorus ranges (mg/l)	
	Grassland	Other crops
1	0.0-3.0	0.0-3.0
2	3.1-5.0	3.1-6.0
3	5.1-8.0	6.1-10.0
4	> 8.0	>10.0

Table 12 Annual maximum fertilisation rates of nitrogen on grassland

Grassland stocking rate[1]	Available Nitrogen[2]
(kg/ha/year)	(kg/ha)
⩽170	206
Grassland stocking rate greater than 170 kg/ha/year[3, 4]	
171-210	282
211-250	250
>250	250[5]

[1]Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (ha) (grazing and silage area). Stocking rate refers to grassland area only.
[2]The maximum nitrogen fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.
[3]This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted, in accordance with the Nitrates Directive).
[4]From 1 January 2021 these fertilisation rates are only applicable where the fertiliser type specified by the Minister for Agriculture, Food and the Marine is used.
[5]The application of nitrogen from livestock manure (including that deposited by the animals themselves) to the eligible grassland area shall not exceed 250 kg nitrogen per hectare per year.

Table 13A Annual maximum fertilisation rates of phosphorus on grassland

Grassland stocking rate[1] (kg/ha/year)	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) [2,3,6]			
<85	27	17	7	0
86-130	30	20	10	0
131-170	33	23	13	0
Grassland stocking rate greater than 170 kg/ha/year[4,5]				
171-210	36	26	16	0
211-250	39	29	19	0
>250	39	29	19	0

[1]Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (grazing and silage area). Stocking rate refers to grassland area only.
[2]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[3]Manure produced by grazing livestock on a holding may be applied to Index 4 soils on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.
[4]The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.
[5]This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).
[6]An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.

Table 13B Annual maximum fertilisation rates of phosphorus on grassland adopting increased P build-up application rates

Grassland stocking rate[1] (kg/ha/year)	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) [2,3,6]			
131-170	63	43	13	0
Grassland stocking rate greater than 170 kg/ha/year[4,5]				
171-210	66	46	16	0
211-250	69	49	19	0
>250	69	49	19	0

[1]Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (grazing and silage area). Stocking rate refers to grassland area only.
[2]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[3]Manure produced by grazing livestock on a holding may be applied to Index 4 soils on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.
[4]The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.
[5]This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).
[6]An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.

Table 14 Annual maximum fertilisation rates of available nitrogen on grassland (cut only, no grazing livestock on holding)

	Available nitrogen (kg/ha)
1st cut	125
Subsequent cuts	100
Hay	80

Table 15 Annual maximum fertilisation rates of phosphorus on grassland cut only

	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1,2,3]			
First cut	40	30	20	0
Subsequent cuts	10	10	10	0

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[2]The fertilisation rates apply to grassland where there is no grazing livestock on the holding.
[3]The fertilisation rates in this table apply to those areas of farms where hay or silage is produced for sale off the holding on farms stocked <85kg grassland stocking rate.

Table 16 Maximum fertilisation rates of nitrogen on tillage crops

Crop	Nitrogen Index			
	1	2	3	4
	Available Nitrogen (kg/ha)			
Winter Wheat [1,2]	210	180	120	80
Spring Wheat [1,2]	160	130	95	60
Winter Barley [1]	180	155	120	80
Spring Barley [1,3]	135	100	75	40
Winter Oats[1]	145	120	85	45
Spring Oats[1]	110	90	60	30
Sugar Beet	195	155	120	80
Fodder Beet	195	155	120	80
Potatoes: Main Crop, >120 days[4]	250	190	170	140
Potatoes: Maincrop/seed, 90-120 days[4]	270	230	210	180
Potatoes: Early, 60-90 days[4]	210	170	150	120
Potatoes: Salad, <60 days[4]	140	120	100	60
Maize	180	140	110	75
Field Peas/Beans	0	0	0	0
Oil Seed Rape	225	180	160	140
Linseed	75	50	35	20
Swedes/Turnips	90	70	40	20
Kale	150	130	100	70
Forage Rape	130	120	110	90

[1]Where proof of higher yields is available, an additional 20kg N/ha may be applied for each additional tonne above the following yields:
Winter Wheat — 9.0 tonnes/ha Spring Wheat — 7.5 tonnes/ha
Winter Barley — 8.5 tonnes/ha Spring Barley — 6.5 tonnes/ha
Winter Oats — 7.5 tonnes/ha Spring Oats — 6.5 tonnes/ha
The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.
[2]Where milling wheat is grown under a contract to a purchaser of milling wheat, an extra 30 kg N/ha may be applied.
[3]Where malting barley is grown under a contract to a purchaser of malting barley, an extra 20 kg N/ha may be applied where it is shown on the basis of agronomic advice that additional nitrogen is needed to address a proven low protein content in the grain.
[4]Length of growing season

Table 17 Maximum fertilisation rates of phosphorus on tillage crops

Crop	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
Winter Wheat [2,3,5]	45	35	25	0
Spring Wheat [2,3]	45	35	25	0
Winter Barley [2,3,5]	45	35	25	0
Spring Barley [2,3]	45	35	25	0

Crop	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
Winter Oats [2,3,5]	45	35	25	0
Spring Oats [2,3]	45	35	25	0
Sugar Beet	70	55	40	20
Fodder Beet	70	55	40	20
Potatoes: Main Crop	125	100	75	50
Potatoes: Early	125	115	100	50
Potatoes: Seed/Salad	125	115	100	85
Maize	70	50	40	20[4]
Field Peas	40	25	20	0
Field Beans	50	40	20	0
Oil Seed Rape	55	45	35	0
Linseed	35	30	20	0
Swedes/Turnips	70	60	40	40
Kale	60	50	30	0
Forage Rape	40	30	20	0

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.
[2]Where proof of higher yields is available, an additional 7.8kg P/ha may be applied on soils at phosphorus 1, 2, or 3 for each additional tonne above a yield of 6.5 tonnes/ha. The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.
[3]Where pH is greater than or equal to 7, 20kg P/ha may be applied on soils at phosphorus index 4.
[4]Must be incorporated prior to or during sowing.
[5]For winter cereals on soils of P index 1 and 2, 20 kg of the maximum P fertilisation rate may be applied up to 31st October, which must be incorporated prior to or during sowing.

Table 18 Maximum fertilisation rates of nitrogen on vegetable crops

Crop	Nitrogen Index				Maximum additional supplementation (Top dressing)
	1	2	3	4	
	Available Nitrogen (kg/ha)				
Asparagus (Establishment)	140	115	95	70	
Asparagus (After harvest)	0	0	0	0	70
Broad Beans	0	0	0	0	
French Beans	90	85	75	70	
Beetroot	140	125	105	90	
Brussels Sprouts	120	115	105	100	180
Spring Cabbage	50	35	15	0	250
Other Cabbage	150	135	115	100	100
Broccoli	120	115	100	90	120
Cauliflower (Winter and Spring)	75	50	25	0	150
Cauliflower (Summer and Autumn)	120	85	65	40	120

Crop	Nitrogen Index				Maximum additional supplementation (Top dressing)
	1	2	3	4	
	Available Nitrogen (kg/ha)				
Carrots	90	70	40	0	
Celery	120	85	65	50	180
Courgettes	140	125	105	90	
Leeks	150	130	100	80	150
Lettuce	100	90	80	70	50
Onions	70	60	50	40	70
Scallions	90	80	70	60	60
Parsley	100	80	60	40	150
Parsnip	100	85	70	50	70
Peas (Market)	0	0	0	0	
Rhubarb	100	90	80	70	200
Spinach	140	125	105	90	100
Swede (Horticultural)	70	45	25	20	30
Swede (Transplanted crops)	90	60	30	0	

Table 19 Maximum fertilisation rates of phosphorus on vegetable crops

Crop	Nitrogen Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
Asparagus (Establishment)	65	45	35	20
Asparagus (After harvest)	27	22	15	10
Broad Beans	65	45	35	20
French Beans	65	45	35	20
Beetroot	65	45	35	20
Brussels Sprouts	65	45	35	20
Spring Cabbage	65	45	35	20
Other Cabbage	65	45	35	20
Broccoli	65	45	35	20
Cauliflower (Winter and Spring)	65	45	35	20
Cauliflower (Summer and Autumn)	65	45	35	20
Carrots	65	45	35	20
Celery	88	65	55	28
Courgettes	65	45	35	20
Leeks	65	45	35	20
Lettuce	80	60	40	20

Crop	Nitrogen Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
Onions	65	45	35	20
Scallions	65	45	35	20
Parsley	65	45	35	20
Parsnip	65	45	35	20
Peas (Market)	65	45	35	20
Rhubarb	65	45	35	20
Spinach	65	45	35	20
Swede (Horticultural)	70	60	45	35
Swede (Transplanted crops)	70	60	45	35

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

Table 20 Annual maximum fertilisation rates of nitrogen on fruit/soft fruit crops

	Available Nitrogen (kg/ha)
Apples (Dessert)	125
Apples (Culinary)	125
Pears	50
Cherries	70
Plums	70
Blackcurrants	80
Gooseberries	40
Raspberries	60
Strawberries	50
Redcurrants	60
Loganberries	50
Blackberries	50

Table 21 Annual maximum fertilisation rates of phosphorus on fruit/soft fruit crops

Phosphorus Index				
	1	2	3	4
Available Phosphorus (kg/ha)[1]				
Apples (Dessert)	25	16	12	8
Apples(Culinary)	20	12	10	8
Pears	16	8	4	0
Cherries	16	8	4	0
Plums	16	8	4	0
Blackcurrants	20	16	12	8

Phosphorus Index				
	1	2	3	4
Available Phosphorus (kg/ha)[1]				
Gooseberries	20	16	12	8
Raspberries	20	16	12	8
Strawberries	16	8	4	0
Redcurrants	20	16	12	8
Loganberries	20	16	12	8
Blackberries	20	16	12	8

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

Table 22 Phosphorus excess limits Article 34

Date	Total available phosphorus (kg/ha)
1 January 2017	3
1 January 2018	3
1 January 2019	2
1 January 2020	1
I January 2021	0

SCHEDULE 3

Articles 10, 11, 13 and 16

STORAGE PERIODS FOR LIVESTOCK MANURE

1. The storage period specified for the purposes of Articles 10(2), 11(2), 13 and 16(5)(*b*) is—

(*a*) 16 weeks in relation to holdings in counties Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford and Wicklow;

(*b*) 18 weeks in relation to holdings in counties Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo and Westmeath;

(*c*) 20 weeks in relation to holdings in counties Donegal and Leitrim, and

(*d*) 22 weeks in relation to holdings in counties Cavan and Monaghan.

2. Where 20% or more of a holding lies within one or more counties of higher storage requirement as specified in paragraph 1, the holding shall be deemed for the purposes of this Schedule to lie wholly within the county in relation to which the longest storage period is specified.

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.

L.S.

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 Ireland's 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).

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