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**ENVIRONMENTAL IMPACT ASSESSMENT REPORT**  
**FOR PATRICK O CONNOR**  
**RATHCAHILL TEMPLEGLANTINE CO LIMERICK**  
**NOVEMBER 2018**



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# CONTENTS

	Page No
<u>Non-Technical Summary</u>	6
<b><u>1.1 Introduction &amp; Development Context</u></b>	<b>10</b>
1.1.1 Scale of Development	10
1.1.2 Planning and Licensing History	11
1.1.3 Site Location	12
1.1.4 Topography	12
1.1.5 Physical Description of the proposed Development	13
1.1.6 Operation of the Proposed Development	13
1.1.6.1 Operating Hours	13
1.1.6.2 Production Process	14
1.1.6.3 Feeding	14
1.1.6.4 Production Cycle	14
1.1.6.5 Management of Organic Manure	15
1.1.6.6 Management of Soiled Water	15
1.1.6.7 Bio-Security	16
<b><u>2. Scoping of Environmental Impact Assessment</u></b>	<b>17</b>
2.1 Data required to identify the main effects that the proposed development is likely to have on the environment	19
2.2 Project Type as per the EPA Draft Guidance	19
<b><u>3. Description of Reasonable Alternatives</u></b>	<b>20</b>
3.1 Alternative Site	20
3.2 Alternative Layout and Design	21
3.3 Alternative Size	23

3.4	Alternative Process's considered	23
3.5	Alternative Management of By-Products	23
<b>4.</b>	<b><u>Environment Assessment</u></b>	<b>24</b>
4.1.1	Description of the physical characteristics of the proposed development and the land use requirements during construction and operation.	24
4.1.2	Description of the main characteristics of the production process, nature and quantities of materials used.	25
4.1.3	Estimation by type and quantity of the expected residues and emissions, quantity of waste produced during the construction phase.	26
4.2	Description of current environment (Baseline Scenario),	27
4.3	Description of the aspects of the environment likely to be significantly affected by the proposed development	28
4.3.1	Effect on Population and Human Health	28
4.3.2	Effect on Bio-diversity (Flora and Fauna)	29
4.3.3	Effect on Land and Soil	30
4.3.4	Effect on Geology and Geomorphological Heritage of the Area.	31
4.3.5	Effect on water	31
4.3.6	Effect on Air	34
4.3.7	Effect on Climate and Climate Change	34
4.3.8	Effect on Visual Aspects and Landscape	35
4.3.9	Effect on Archaeological and Cultural Heritage.	36
4.3.10	Effect on Material Assets	36
4.4	Description of the significant effects of the proposed development.	38

4.5	The forecasting methods used to assess the effects on the environment	42
4.6	Cumulative and Transboundary Effects	42
4.7	Inter Relationships	42
4.7.1	Discussion – Positive Impacts	44
4.7.2	Discussion – Neutral Impacts	44
4.7.3	Potential Impacts and Mitigation Measures	45
4.8	Difficulties encountered in compiling the required information	50
<b>5</b>	<b><u>Description of measures envisaged to avoid, reduce, prevent or if possible, offset any identified significant adverse effects on the environment.</u></b>	<b>51</b>
<b>6.</b>	<b><u>Environment Management Programme</u></b>	<b>53</b>
6.1	Introduction	53
6.2	Organic Fertilizer Management Programme	53
6.3	Environmental Monitoring Programme	53
<b>7.</b>	<b><u>Summary</u></b>	<b>54</b>

**Appendices**

**Appendix No 1. Site Location Maps, Plans and Drawings**

**Appendix No 2. Correspondence from MJ Kehoe Transport Ltd**

**Appendix No 3. Map of associated lands for soiled water**

**Appendix No 4. EBAT Guidelines**

**Appendix No 5. DAFM S135 Specification for Screening Belts.**

**Appendix No 6. Screening Statement for MNJ O'Connor Poultry**

**Appendix No 7. Waste Permit Wards Waste**

**Appendix No 8. Construction and Demolition waste Management Plan.**

**Appendix No 9. Section 5.6.1 Limerick County Development Plan.**

**Appendix No 10. N.I.S. MNP O'Connor's Poultry**

**Appendix No 11. EPA EIAR Guidelines**

**Appendix No 12 Letter of Acceptance from Custom Compost**

**Appendix No 13 Nitrate Directive Regulation (S.I. No 605 of 2017**

## A. NON-TECHNICAL SUMMARY

This Environmental Impact Assessment Report (E.I.A.R.) has been prepared by NRGE Ltd on behalf of Mr. Patrick J O Connor, Rathcahill, Templeglantine Co Limerick in respect of the proposed development of an additional poultry house adjacent to their existing farm facility, together with all ancillary structures and associated site works.

The E.I.A.R. has been prepared by NRGE Ltd, with the assistance of persons and bodies referred to hereafter. The farm will operate under Licence by the Environmental Protection Agency, An application was lodged with the Agency on 05/07/2016 (Reg No P1042-01), and is expected to be issued in the near future.

The proposed development is to be completed on a site adjacent to the existing facility at Rathcahill West, Templeglantine, Co Limerick. This E.I.A.R. has been prepared after an Environmental Impact Assessment (E.I.A.) of the proposed development carried out by NRGE Ltd and associates, in accordance with the Planning and Development Act 2000 (as amended), Planning & Development Regulations 2001-2015 and the Protection of Environment Act 2003.

The site of the existing poultry operation and the proposed extension is located in an area of poor ecological value. The site is not located or bordering any sensitive ecological areas including Natural Heritage Areas (NHA) Special Area of Conservation (SAC) or Special Protection Area (SPA).

The existing farm operated by the applicant is located adjacent to the site of the proposed development and has been operated as a poultry farm for the last number of years.

The proposed development of 1 No. Broiler rearing house, adjacent to the existing farm operation will be completed within a low set area of the existing landholding, and will be well screened so as to minimise any potential visual impact from same. The capacity of the farm upon completion of all proposed developments will be 108,000 birds, exceeding the threshold required for the preparation of an Environmental Impact Assessment Report as per S.I. 600 of 2001 (Planning and Development Regulations 2001), Schedule 5 Part 2 1 (e) (i) as follows;

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

As all manure is to be moved off-site by a registered contractor in line with the requirements of S.I. 605 of 2017 (See Appendix 13). The additional structures and site works required as part of the proposed development will include meal storage silo(s), soiled water tank, and gas storage tanks etc.

The proposed development will be located in the townland of Rathcahill West, Templeglantine, Co Limerick. The proposed development will provide significant economies of scale for the applicant.



This proposed development will bring the capacity of this farm in excess of that for which a Licence has been applied for (P1042-01) from the Environmental Protection Agency (E.P.A.) as submitted to the Agency 05/07/2016. The applicant will ensure that the required licence is in place prior to operation of the proposed development. This E.I.A.R. will be submitted to the EPA as part of the Licence application process.

The application site lies within the Lower Shannon River Basin District. Surface waters emanating from the project site drain to the Ballymurragh East Stream, which is an upstream feeder stream of the Eeghaun River. The Eeghaun River in turn drains to the River Feale which forms part of the Lower River Shannon SAC. The confluence of the Eeghaun River and the River Feale in Abbeyfeale is the nearest point of this SAC to the project site and is located approximately 5km downstream from the project site

Storm water from roofs and clean yards will discharge to field drainage via a storm water collection system. The storm water discharge points will be regularly checked, inspected and monitored. There will be no discharge of any soiled water or any effluent from the site to any watercourse or to groundwater.

The site of the existing poultry operation and the proposed extension is located in an area of poor ecological value. The site is not located or boarding any sensitive ecological areas including Natural Heritage Areas (NHA) Special Area of Conservation (SAC) or Special Protection Area (SPA).

The site is located 9.0 km to the south west of Newcastle West, Co Limerick, approximately 46km southwest of Limerick City. The village of Templeglantine is located to the northeast, approximately 1 km from the proposed development. The townland of Rathcahill West is situated south of Ballymurragh West, to the north the townland of Templeglantine West. The site is west of Lissurland and Glenmore West and to the east is Meenylane south. The site is 1.37 hectares in area and it is accessed via a local rural road.

The site is well serviced by the current road infrastructure and is accessed by a local road which subsequently connects with the National Route, the N21 Limerick to Castleisland Road, c. 0.5 km from the farm. The poultry house for which permission is sought would be located c. 25 m from the adjoining local road. The proposed finished floor level will be in keeping with existing ground levels and set so as to ensure that any soil excavated on site can be utilised to level low lying areas, while at the same time minimising excavation and potential visual impact. The location of the proposed development, screened by the existing land topography and the existing hedgerows together with the proposed external finishes and proposed landscaping will mean that the development will be well integrated into the existing landscape.

The site is located 9.0 km to the south west of Newcastle West, Co Limerick, approximately 46km southwest of Limerick City. The village of templeglantine is

located to the northeast, approximately 1 km from the proposed development. The townland of Rathcahill West is situated south of Ballymurragh west, to the north the townland of Templeglantine West. The site is west of Lissurland and Glenmore West and to the east is Meenylane south.

The Screening for Appropriate Assessment completed by the EPA identified the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA as the only European Sites occurring within the sphere of influence of the project.

Hazardous waste generated at this site will 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 minimal. It is proposed to accumulate the used fluorescent tubes in a specialised storage area in the site pending periodic to be returned to the supplier.

The proposed poultry house will be similar in design principles to other broiler house constructed on site. 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. Birds are housed on a solid floor, with litter (wood shavings/chopped straw) spread over the entire floor area.

Automated feeding and drinking systems are proposed and are in line with Best Available Techniques (BAT) requirements. A button nipple drinking system will be used in the proposed house as this is the most efficient type of drinking system and will ensure that the manure/litter remains as dry as possible.

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

The proposed poultry houses will be of a steel or timber portal frame construction on a concrete base. 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. 92m by 22m internally with an overall height of c. 6.2 m.

The production process on this farm will be similar to other such houses in this part of Co. Limerick, and will be in line with the requirements of the Department of Agriculture, Food & Marine and Bord BIA. The applicant will be responsible for the feeding, management and husbandry of the birds and for ensuring that all of the required records are maintained. The stock for this farm will be brought from the hatchery as day olds, and will remain in the houses until c. 5-6 weeks of age when they are transported to Western Brand (or other approved processor) for processing. 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 poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out

Soiled water arising from the washing down of the accommodation houses is utilised on the applicant's land adjacent to the unit and amounts to approximately 8 vacuum tanks a year. The application of the soiled water is regulated under the EU (Good Agricultural Practice for the Protection of Waters) 2014 S.I. 605 of 2017.

Emissions to air from the site are and will be small, and are attributable to the animals that are on the site. The odour associated with a site of the 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. 6 - 7 flocks/annum.

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, for delivery to a licensed rendering facility.

The potential of the proposed development, either independently and/or when assessed cumulatively with other developments in the area, for either direct or indirect, short, medium, or long term adverse impact on environmental parameters is negligible, if any, because; of the nature and scale of the proposed development, wastes would be removed from the site by authorised waste contractors for either disposal or use elsewhere, all manure is to be removed off site by an experienced contractor, and, all soiled water will be collected in dedicated soiled water collection tanks pending its application to the applicant's landholding.

While waste generated in the site would be accumulated and stored temporarily in the site, there would be no disposal or recovery of any waste undertaken on the site.

## **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 diversification on an existing farming enterprise, at Rathcahill West, Templeglantine, Co Limerick, to be operated by the applicant. The E.I.A.R. is to be submitted to Limerick County Council in support of an application for Planning Permission to construct 1 No. proposed poultry houses (for Broiler/Chicken rearing) together with all ancillary structures and associated site works, on a site adjacent to an existing broiler rearing farm. Please refer to the site plan location maps and drawings contained in Appendix No. 1. The E.I.A.R. is drafted with particular regard to the Planning and Development Acts 2000 (as amended), the Planning and Development Regulations 2001 - 2015 and in particular Article 94 and Schedule 6 of the 2001 Planning and Development Regulations, 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. 610 of 2001, which specifies a requirement for an EIS/E.I.A.R. for poultry units exceeding 40,000 places for poultry.

### **I.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 site adjacent to an existing broiler farm currently used by the applicant. Planning permission has previously been granted by Limerick Co. Co. to the applicant and a search of the Planning Register shows that there are a number of planning permissions and applications on the holding, for existing operations.

The capacity of the farm following completion of the currently proposed developments will be a maximum of c. 108,000 broilers. The applicant lodged an application to the Environmental Protection Agency (E.P.A.) (P1042-01) on 5/7/16 for the operation of the existing farm facility with a capacity of 74000 broilers. The applicant will require a Licence from the E.P.A. to accommodate the proposed developments 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 to be carried out on this site by the applicant, however the applicants' existing 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 number of other broiler houses in this part of Co. Limerick.

The proposed development will be carried out, to ensure compliance with the Nitrates directive (Appendix 13), animal welfare legislation S.I. No 605 of 2017, 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 Rathcahill West, Templeglantine.

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). A Licence for the operation of the farm will be obtained from the Agency

prior to the commencement of operating activities on site. The enterprise upon completion of the proposed development will provide full time employment and will facilitate the economic sustainability of his farming enterprise.

The purpose of the proposed development is for the rearing of birds from day olds to market weight (c. circa 6 weeks). These birds will then be transported to the processor, (Western Brand, or other approved processor) for the production of poultry products for human consumption. The scale of the proposed farm and the licensable activity is small - medium by current industry standards.

The proposed poultry house will have a total internal floor area of c. 1,898 m<sup>2</sup>. The new poultry houses will be c. 92 m long and c.22 m wide and c. 6.2 m high at the apex. 1 No. soiled water collection tanks of c 22.7 m<sup>3</sup> capacity will be located adjacent to proposed development. Manure will be removed at the end of each batch. This is to be moved off-site by the appointed contractor, and delivered to Custom Composting.

The proposed buildings will be sympathetic to the surrounding landscape in terms of the design and appearance, and will be similar to the existing adjacent building and will not be intrusive in the landscape. The F.F.L.I of proposed poultry houses will be in keeping with existing ground levels in the main, due to the land topography ensuring that the proposed development will have no adverse visual impact. The drawing details with regard to the proposed developments are included in Appendix No. 1

#### 1.1.2 The Planning/Licensing History

Planning permission has previously been granted on the site of the existing poultry houses. These are summarised in tabular format below

<b>Planning or Appeal Reference Number</b>	<b>Planning Authority/An Bord Pleanala</b>	<b>Date of Planning Decision (Final)</b>	<b>Brief description</b>
1042	Limerick County Council	09/12/2010	The construction of two poultry houses, entrance and all associated site works
11457	Limerick County Council	18/07/2011	construction of two poultry houses (20,000 birds each) and entrance from public road
12283	Limerick County Council	15/08/2012	the construction of a broiler unit (an Environmental Impact Statement has been submitted as part of this application)
13366	Limerick County Council	13/08/2013	amendments to condition no. 17 of planning reference no. 12/283 to include installation of a low pressure ventilation system

An E.P.A. licence application was submitted to the Agency in respect of the existing Broiler farm on 05/07/2016, and the resultant licence is due to be issued in the near future. The applicant will require a Licence from the E.P.A. to accommodate the proposed developments and this application will be completed with the E.P.A. upon receipt of planning permission

### **1.1.3 Site Location**

The site in question is located in a rural area within the townland of Rathcahill West. The site is 1.37 hectares in area and it is accessed via a local rural class road. The site of the Poultry Unit is located approximately 9km South West of Newcastle West and 1km from the village of Templeglantine, which is to the North East of the Unit. The project site lies immediately to the north of an existing poultry unit. The project site and the existing poultry unit are located in an area that is relatively flat with existing poultry units well screened by hedgerows from the N21.

Rural, agricultural land with little topographic relief occurs on-site. Much of the landscape surrounding the site is flat where levels are commonly 127m to 136m. Throughout the area the land is farmed with fields enclosed with a varied mix of hawthorn and blackthorn hedges, stone walls and fences. Improved agricultural grassland dominates the surrounding land cover. Improved agricultural grassland dominates the development footprint with surrounding hedgerows and tree lines.

Poultry farming is seen as a traditional farming activity in this part of Co. Limerick. The existing site is serviced by a good road network, accessed by a local road which subsequently connects with the National Route N21 Newcastlewest to Castisland Road. 0.5 Km north east of the site. This proposed site is to be accessed via the existing operational entrance. The poultry house for which permission is sought would be located adjacent to an existing broiler house of similar construct and scale.

The location of proposed poultry houses is identified on the location maps (1:2,500) included in Appendix 1, as well as the layout drawings of the proposed development. The proposed site is compact, and is designed to be safe, secure and efficient in operation.

### **1.1.4 Topography**

Much of the landscape surrounding the site is flat where levels are commonly 127m to 136m. Throughout the area the land is farmed with fields enclosed with a varied mix of hawthorn and blackthorn hedges, stone walls and fences. Improved agricultural grassland dominates the surrounding land cover. Improved agricultural grassland dominates the development footprint with surrounding hedgerows and tree lines.

The proposed development will be screened from view by the existing land topography, hedgerows and proposed landscaping, (landscaping as detailed on the plans provided, and, in line with Department of Agriculture, Food and The Marine

Specifications as contained in Appendix No. 5). The subject site topography is similar in nature to the general topography in this area.

As can be seen from the plans submitted with this application 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 existing land topography to ensure that there is no adverse visual impact on the surrounding area. This will be complimented by the existing and proposed landscaping and the proposed finish to the buildings.

#### **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 1 includes detailed drawings of the proposed development.

Broiler rearing design principles follow a simple template and have not changed significantly over recent years. The type of poultry housing proposed on this farm is designed for 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. Broiler rearing house will be of similar design to the existing house on site 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 houses will be c. 92m long by 22 m wide with an overall height of c. 6.2 m. All manure is to be moved off-site by a registered contractor in line with the requirements of S.I. No 605 of 2017.

The measures outlined as BAT for the Poultry Sector, (in the Integrated Pollution Prevention and Control (IPPC) Reference Document on Best Available Techniques for Intensive rearing of Poultry and Pigs), and in particular this type of production include: "the naturally ventilated house with a fully littered floor and equipped with non-leaking drinking systems, or The well-insulated fan ventilated house with a fully littered floor and equipped with non-leaking drinking systems.

#### **1.1.6 Operation of the Proposed Development**

**1.1.6.1 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.

**1.1.6.2**                    **Production Process:** The production process on this farm will be in line with the requirements of the poultry processors, Western Brand, and their customers. These 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 also subject to inspections from Bord Bia, the Department of Agriculture, Food and Marine, Limerick Co. Co., and the Environmental Protection Agency.

**1.1.6.3**                    **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/annum is expected to be c. 2,950 t. All feed to be used on this farm will be supplied from specialised feed suppliers.

**1.1.6.4**                    **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 circa 6 weeks when they will be caught by specialist bird catchers and transported by HGV to the processors facility. The proposed houses will operate in an all in - all out basis to maintain a single age profile, and to maintain the health status of the birds. The production cycle on the farm is circa 6 weeks with 1 - 2 weeks empty after every batch. This results-in c. 6 - 6.5 batches per annum.

Day 1- ***Birds Moved to the farm. (It may take 2 days to fill all houses)***

Day 35-42- ***Birds removed from the houses.***

Day 43-45- ***Manure Removed from the houses.***

Day 45-47- ***Houses Washed down and left to dry.***

Day 50 - ***Houses bedded with shavings and left ready for the next batch of birds***

In compliance with current Bord Bia Quality Assurance Scheme, 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.
- Preheat 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:

**1.1.6.5 Management of Organic Manure:** The poultry manure from this farm will be removed off site by an authorised contractor, on behalf of the applicant, and delivered to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.

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. This approved contractor 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.

The estimated manure production at this farm as a result of the proposed development will be c. 800-900 tonnes/annum. As previously detailed all manure will be moved off-site by an approved registered contractor (MJ Kehoe Transport Ltd) in compliance with **S.I. 205** of 2017, i.e. the regulations that have given effect to the Nitrates Directive in Ireland. A letter of confirmation in respect of same is included in Appendix 2.

**1.1.6.6 Management of Soiled Water:** Soiled water from the proposed development, will be diverted to and collected in a dedicated soiled water collection tank, located adjacent to the proposed development on site. Estimated soiled water production will be c. 70 m<sup>3</sup>/annum from this proposed house. This soiled water will then be applied to the applicant's farmland in line with S.I. 205 of 2017. A map is included in Appendix 3 indicating the location and extent of farmland available for soiled water. Soiled Water from the proposed development will be allocated to these lands as Indicated in Appendix No. 3.

**1.1.6.7 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.

## 2. Scoping of Environmental Impact Assessment

The scoping of this E.I.A.R. was carried out by the design team in conjunction with the applicant, and was completed in line with previous submissions to the Environmental Protection Agency, Limerick 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

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 to 2015*
- Draft Revised Guidelines on the Information to be Contained In Environmental Impact Assessment Reports published by the Environmental Protection Agency in September 2015.
- Draft Advice Notes for Preparing Environmental Impact Assessment published by the Environmental Protection Agency in September 2015.
- Guidelines on information to be contained in Environmental Impact Assessment Report - EPA Draft August 2017
- 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.
- Landscape.
- Material Assets.
- Traffic.
- Architectural and Archaeological Heritage.
- Cultural Heritage.
- The inter-relationship between the factors listed above.

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

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

	<u>No Development</u>	<u>Construction Phase</u>	<u>Operational Phase</u>
<b>Population / Human Health</b>	≥	√√	√√
<b>Biodiversity (Flora)</b>	≥	<b>X</b>	≥
<b>Biodiversity (Fauna)</b>	≥	<b>x</b>	≥
<b>Land and Soil</b>	≥	≥	√√
<b>Water</b>	≥	<b>x</b>	<b>XX</b>
<b>Air</b>	≥	≥	
<b>Climate</b>	≥	≥	≥
<b>Ambient Noise</b>	≥	<b>x</b>	≥
<b>Cultural Heritage</b>	≥	≥	≥
<b>Landscape</b>	≥	<b>XX</b>	<b>x</b>

<b><u>Material Assets</u></b>			
<b>Traffic</b>	≥	<b>x</b>	<b>x</b>
<b>LandUse</b>	≥		
<b>Employment</b>	<b>x</b>	≥	√
		√√	√

**Symbol Key Logs:**

- ≥ No Impact
- x Slight Negative Potential Impact
- XX Moderate Negative Potential Impact
- XXX Significant Negative Potential Impact
- √ Slight Positive Potential Impact
- √√ Moderate Positive 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.
- The emissions to air.
- Knowledge of the processes in the proposed development, and the existing farm.
- 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 guidelines specific to E.I.A.R.**

The EPA have published Draft Guidelines on the Information to be contained in an EIA and Draft Advice Notes for Preparing EIS. In these guidelines 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 sites 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.

The EPA Guidelines on the information to be contained in Environmental Impact Assessment reports, as published in DRAFT August 2017, relating to the preparation of an E.I.A.R, have been implemented in the preparation of this E.I.A.R. These EPA Guidelines have been included as Appendix No. 11.

### **3. Description of Reasonable Alternatives**

#### **3.1 Alternative Site**

A review of the applicant families O'Connor's owned property reveals that this is best option as alternative site would create duplication of the site infrastructure for the construction of one poultry house.

Acquiring property further away from the existing poultry operation has been ruled out as:

- Land would be expensive to acquire
- Alternative land under the ownership of the O'Connor family has been refused planning permission
- Construction costs would be more expensive as the proposed expansion of the poultry growing operation would be connected into the existing infrastructure, thus avoiding duplicate costs of constructing a new feeding, water and heating systems, electrical infrastructure and access.
- Operation costs would be more expensive as addition feed silos and pumping distances would be greater and electricity .[infrastructure would have to come from existing National Grid as opposed to existing on site electrical infrastructure.
- The site is an IPPC Licensed site and the proposal in another site would also require an IPPC License and division of the operation is not in the best option for environmental control.

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 operated by the applicant. This will ensure that access, services, labour and ancillary equipment can be easily shared. As bio-security is a significant

issue with any new poultry farm, the completion of the proposed development away from other farmyards is of critical importance.

***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 required
- Is not an elevated site in terms of the wider landscape, and will not be visually detrimental. The proposed landscaping will minimise any potential impact.
- Is separate from the applicants existing farmyard, thus preventing direct contamination from agri-vehicles, personnel, footwear etc. between enterprises. Bio-security is important to any enterprise such as this and the applicant would like to maintain this to the highest standards
- The existing 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 with minimal, if any, adverse visual impact on the surrounding landscape. The proposed layout was also designed so as to ensure adequate access on site for all traffic associated with the proposed developments, and to ensure that the site is contained, safe and efficient in operation. The layout of the proposed poultry houses, appropriately landscaped and on a previously approved site, and utilising the previously approved access route, will minimise any potential adverse visual impact.

Existing landscaping will be maintained where possible, and strengthened where necessary, along the boundary to further screen the proposed developments from view. 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 to the existing houses constructed elsewhere in the county, and will be sympathetic to the local environment. All roofing materials will be dark in colour. As the proposed design is in line with BAT requirements and as natural/dark coloured 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 development;

- Complies with the requirements of the Nitrates Directive. (S.I. No 205 of 2017)
- Satisfies the applicants need for efficiencies of scale while not requiring significant additional lands.
- Is in line with BAT requirements, and,

- 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.
- Is not located in an area with any significant environmental and/or other constraints.

The design of the proposed development to be undertaken by the applicant was researched and reviewed with the aid and guidance of Western Brand, commercial poultry house designers, the architect and commercial poultry equipment suppliers, after the appropriate production system had been reviewed.

The layout of the proposed housing was designed to ensure that the proposed developments are integrated into the site with minimal, if any, adverse visual impact on the surrounding landscape. The proposed layout was also designed so as to ensure optimum access on site for all traffic associated with the proposed developments, and to ensure that the site is contained, safe and efficient in operation.

Existing landscaping will be maintained where possible, and strengthened where necessary, along the boundary to further screen the proposed developments from view. Additional landscaping will be provided, along the boundaries of the development where required to screen same from view and, 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. (S.I. No 205 of 2017)
- Satisfies the applicants need for efficiencies of scale while not requiring significant additional lands.
- Is in line with BAT requirements. (See Appendix 4) 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***

***201 0/75/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 U 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.

### **3.3 Alternative Size**

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

- Physical restraints/parameters of the site.
- 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.
- The requirements of Western Brand in terms of their supply requirements and recommendations from same with regard to economic and sustainable *food* production.

The scale of the proposed development is in keeping with the scale of other existing farms supplying Western Brand, 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**

Due to the existing broiler house operations at this site, the proposed development offers the best fit between the proposed enterprise and existing activities on the farm, both from a labour and efficiency viewpoint and to ensure that all activities are carried out in a more sustainable manner.

All chickens from the proposed farm are to be sent to Western Brand, who have a requirement for additional stock supplies due to current expansion requirements and market demands. This development will help meet these market demands.

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### **3.5 Alternative Management of By-products**

Application to land and/or for 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 with MJ Keohes Transport Ltd. The applicant has received confirmation that they will manage and remove the poultry manure from the farm.

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;-

- The development site will be services via the existing entrance onto the public road.
- Maintain existing hedgerow plantations along the site boundary. Additional landscaping/hedgerows to be completed where necessary.
- All manure to be moved off site by a registered contractor in line with the requirements of S.I. 205 of 2017.
- The proposed building is of a form, design, colour and materials that are sympathetic to their surroundings, and similar in nature to the existing poultry housing structures on site. The proposed poultry house are c. 92 m long, 22 m wide and c. 6.2 m high. The proposed buildings will be a steel/timber portal frame construction on a concrete base, with pre-fabricated panel walls or pvc coated metal cladding on an insulated concrete stub wall. [See engineers drawings contained in Appendix No.1
- Underground, concrete soiled water storage tank in which soiled water would be collected and stored pending application to the applicant's farmland.

Existing hedgerows/landscaping will be maintained, and strengthened where necessary, along the boundary to further screen the proposed developments from view.

As previously stated the design of the proposed housing is in line with BAT requirements. All of the structures on the site will be screened or blended in to the surrounding landscape by the external finish proposed for the structures, and existing hedgerows where applicable. The external finish to the proposed building will be dark coloured or substantially similar, unless otherwise advised by Limerick 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. 5.

During the construction phase, which will extend over a period of about 3 - 4 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 soil that would be moved during the laying on of services and site preparation works would be deposited and used within the farm. The construction contractor would be required to remove any construction/demolition wastes other than soil 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 house / agricultural developments within the county, which have been completed without adverse impact. There are no sensitive areas/locations/dwellings close to the proposed 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 proposed site would be, similar to that previously approved by Limerick Co.Co., *for the last house constructed on site*, and includes:-

- 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 adjoining farmland.

The applicants existing farm operation operates 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 Public water supply, with a backup supply from an on-site well. Estimated water use will be c. 5,200 m<sup>3</sup> per annum for the activity.

Poultry feed will be specifically formulated rations, formulated and prepared by a specialised poultry feed supplier. 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. Total feed consumption/annum is expected to be c.2,900 t.

Electricity would be used to power all the processes and services on the site. A back-up generator will be available in the event of a power failure. Estimated ESB usage = c. 0.75-1.1 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 = 1-2 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 increase proportionately with the increase in scale.

**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** such as packaging, paper, disposable clothing etc. will be collected regularly by a local contractor 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 7.

**Dead animals and animal tissues** will be accumulated in a sealed leak proof container on site for collection by Wards Waste at 1 - 2 week intervals for transport to an authorised Animal By-products facility operated by Anglo Beef Processors Ireland at Christendon, Ferrybank, Waterford, Co Waterford. It is intended that the frequency of collection will be in line with Limerick Co. Co. / E.P.A. requirements in this regard.

**The organic fertiliser / poultry manure** from this farm is/will be removed off site by an experienced contractor registered with the Department of Agriculture, Food and The Marine, such as MJ Kehoe Transport Ltd. 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. 800-900 tonnes/annum. This organic fertiliser is not considered a waste product and is to be utilised as an organic fertiliser in line with S.I. 205 of 2017 and/or in the production of mushroom compost.

Soiled water from the proposed development will be collected in a dedicated soiled water collection tank, located on-site. This soiled water will then be applied to the adjoining landholding in accordance with the Nitrates Regulations. Normal operations on the site of the proposed development, as for the previously approved development, will not cause any pollution of soil.

**Noise** generated in the proposed development in the site will not exceed legal limits at the site boundary. Noise is not expected to cause a nuisance at this site. Extensive experience with 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 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, 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, as outlined in the Construction and Demolition Waste Management Plan (See Appendix 8).

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 adjacent to existing poultry farm at Rathcahill West, Templeglantine, Co Limerick.

The site of the proposed development operated by the applicant has been operated as a poultry farm for the last number of years. The proposed development consists

of 1 No. Broiler rearing house with capacity for c. 34,000 birds, together with all ancillary structures and facilities necessary for the operation of this enterprise.

The proposed development of 1 No. Broiler rearing house will be low-set in the landscape adjacent to existing structures so as to minimise any potential visual impact from same. This area is currently an intensively managed agricultural grassland area with limited bio-diversity, and currently operates as a poultry farm.

#### **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 health and/or human beings are not anticipated. There are no third party dwellings close (i.e. within 300 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 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.

The existing farm and site of the 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 Limerick County Development Plan 2010 - 2016. Please refer to Appendix No. 9 in this regard. Based on experience at similar sites elsewhere in the country significant effects are not anticipated.

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. This existing farming activities have not received any complaints of this nature to date.

#### **4.3.2 Effect on Bio-diversity (flora and fauna)**

The site of the proposed development is located, adjacent to existing poultry farm facility. As the proposed development will be limited in extent it will have no adverse impact outside the boundary of the site. The site is adjacent to an existing poultry farm yard enterprise, and the flora and fauna around the site has developed in this context.

The area to be developed is relatively small and represents a sustainable farm diversification. Ground works and land profiling will be kept to a minimum outside the footprint of the proposed site.

The proposed development is not near to or likely to adversely impact on any areas of primary or secondary amenity value or views from scenic routes. Structures and new paved surfaces will cover a significant fraction of the site. The changes will affect such a small area that any impact will be close to zero or neutral with the local area.

The project is located in close proximity to the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA. It is not directly connected with or necessary to the management of this or any other European site and hence the requirements of Article 6(3) of the Habitats Directive and Part XAB of the Planning and Development Act 2000, apply. Section 177U (1) of the Planning and Development Act 2000 requires that a screening for an appropriate assessment of, inter alia, an application for consent for a proposed development be carried out by a competent authority to assess, in light of best scientific knowledge, whether the proposed development, individually or in combination with another plan or project is likely to have a significant effect on a European site. A Screening for Appropriate Assessment was completed by the EPA in August 2016 and it was determined that an Appropriate Assessment was required. The EPA Screening concluded that the project will have the potential to contribute to elevated ammonia levels at the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA.

Accordingly, an NIS has been prepared to inform the Appropriate Assessment of the project's potential to result in likely significant effects to the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA as a result of elevated ammonia emissions. Surface water emissions from the project site to the Lower River Shannon SAC catchment are also considered and assessed as part of this NIS. (See full copy included in Appendix 10).

The project site is located within the same surface water catchment as the Lower River Shannon SAC. Surface waters emanating from the project site drain to the Ballymurragh East Stream, which is an upstream feeder stream of the Eeighaun River. The Eeighaun River in turn drains to the River Feale which forms part of the

Lower River Shannon SAC. The confluence of the Eeghaun River and the River Feale is the nearest point of this SAC to the project site and is located approximately 5km downstream from the project site

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.

A rodent control programme is currently operational on the adjacent poultry farm, and this will be developed to cover the proposed development. The programme as implemented on site is 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. The development, managed as is proposed, 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.

#### **4.3.3 Effect on Land and Soil**

The proposed structure will be constructed adjacent to the existing poultry houses, and 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 applicant's landholding and the wider agricultural area.

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. All organic fertiliser is destined for compost production, or supplied to customer tillage farmers for use as organic fertiliser in accordance with **S.I. 205** of 2017 in response to demand.

The general soil classification for this area are Gley's, with a limited use range. They have a poorly developed, weak structure, and a rather heavy (silty) texture, with a low degree of porosity and slow permeability; their internal drainage is poor. Because of these factors, they are not suited generally to tillage crops, and their



optimum agricultural use is in grass production. The extensive occurrence of rushes in the pastures throughout the area, even on sloping terrain, reflects the dense, slowly permeable nature of the soils and current management practices. Their natural nutrient and lime status is low. With drainage to improve the stock carrying capacity of the pastures and to extend the grazing season somewhat, with liming as required and with proper manuring, high yields of good quality grass can be produced. Management needs to be of a high standard, however, to avoid severe poaching and to control rush infestation, and must include the conservation of surplus summer grass to provide for a long period of indoor feeding

#### **4.3.4 Effect on Geological & Geomorphological heritaae of the area.**

The proposed structure for the site would be constructed adjacent to the existing poultry houses, and there is no significant potential for any effect outside of the development area.

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 site due to the land topography and existing /proposed landscaping the proposed development will not have any adverse impact on the landscape and/ or the geomorphological heritage of the area.

#### **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, 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 existing water supply on the farm is from the public supply, with a backup from an on-site 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 classed as; Locally Important Aquifer, with a vulnerability rating of Low (L) vulnerability. As the proposed development, will operate on a dry manure basis, whereby the manure will be removed from the houses after each batch and transported off site, there is minimal risk to ground water supplies in the area of the site.

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. All storm water from the

yard will be diverted via a clean water drainage system to a single storm water monitoring point indicated as SW1 on the Site Layout Plan, which discharges to a small drainage ditch. This monitoring point will be inspected weekly and sampled quarterly for COD at an Independent Laboratory. Surface waters emanating from the project site drain to the Ballymurragh East Stream, which is an upstream feeder stream of the Eeghaun River. The Eeghaun River in turn drains to the River Feale which forms part of the Lower River Shannon SAC.

The following protection policies have been considered in the design of the proposed development and are as follows.

1. Assess all potential impacts on the quality of surface waters from the proposed development.
2. Ensure compliance with the European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No 272 of 2009) and the European Communities Environmental Objectives (Groundwater Regulations, 2010 (S.I. No. 9 of 2010).
3. Assess all potential impacts on groundwater reserves in the county.
4. Incorporate best practice in the design, construction and operation of the proposed development to ensure minimum effects on the aquatic environment.
5. Develop a water protection plan and detailed site drainage plans.
6. Ensure a sustainable plan for recovery of manure from the project site.
7. Plan to include mitigation measures that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife.

### **During Construction**

- 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 an amount of excavated soil from site development works which will be used within the site/landholding. Its use will not lead to the loss or damage of any natural or semi-natural habitats elsewhere and will not be spread close to any local watercourse.
- All hedgerows, not directly impacted by the proposed development, 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.

#### During Operation

- All activities on site to be carried out in accordance with the Department of Agriculture, Food and Marine, Bord BIA, EPA and Limerick Co. Co. requirements and specifications and/or industry standards.
- All organic fertiliser generated on site to be removed by a registered contractor for use elsewhere.
- All soiled water to be appropriately collected, stored and utilised in accordance with the requirements of S.I. 31 of 2014.
- All potentially polluting products (fuels, detergents etc.) to be stored in appropriately bunded areas.
- Storm water discharge points to be checked and inspected on a weekly basis for any sign of contamination.
- Appropriate measures to be put in place to deal with any accidents etc. that have the potential to cause adverse environmental impact.

#### 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 6 - 6.5 times/annum.*

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

- 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. As detailed previously the proposed development is located a significant distance away from any Natura 2000 sites and emissions (incl. gaseous emissions) from the proposed development 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. Wind direction at the site is critical to odour movements and rainfall is a critical factor in the application of wash water. Rainfall in the customer farmlands ranges annually from 900mm -1100mm.

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<sub>2</sub>O emissions can be divided into three areas,

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

Organic fertiliser from this farm will be used in compost production 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. 205** of 2017, particularly with regard to amounts applied, weather and ground conditions at the time of spreading, and even application, etc., should ensure that emissions generated are kept to an absolute minimum. Dry manures will spread more evenly, and modern rear emptying muck spreaders are likely to be more precise than side discharging machines.

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. 205** of 2017 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 farm has operated with no adverse impact and no complaints from neighbours.

This development will have no significant adverse effect on climate.

#### **4.3.8 Effect on Visual Aspects and Landscape**

An assessment of the likely landscape and visual impacts of the proposed development by Patrick O'Connor to expand the existing capacity of the poultry growing operation will involve the assessment reviewing plans, sections and elevations of the existing proposed scheme, together with visits to the site and environs of the subject development

The existing poultry growing operation at Patrick O'Connor, Rathcahill West, Templeglantine, Newcastle West Co. Limerick is in an area which is relatively flat with existing poultry units well screened by Hedgerows from the N21. While the buildings and structures associated with the plant are visible close to the entrance the poultry operation is well screened. The site is at a high elevation to the N21 as there, is a raise of approx. 5 meters.

Patrick O'Connor's poultry operation is not visually prominent built feature in the locality and in addition there are other poultry units in the area.

In effect a number of other agricultural and commercial operations exist in the area, including general supplies, plumbing, poultry and beef farming operations. There is, therefore, amongst the rural surroundings there is a constant theme of commercial and agricultural buildings. The Patrick O'Connor poultry farm is not the most prominent of these facilities and as a consequence it is not a significant influence on the character of the surrounding area.

Rural, agricultural land with little topographic relief occurs on-site. The existing road at the site entrance joins at the N21. Much of the landscape of the site is flat where levels are commonly below 127 to 136m. Throughout the area the traditional boundaries: with fields enclosed with a varied mix of hawthorn (*Crataegus monogyna*) and blackthorn, stone walls and fences. Pasture and grassland for silage predominate the land use and there is little arable farming in the area. Residential property is generally dispersed along the local roads.

Given the nature and impact of the existing facility, it is considered that the proposed extension will not result in *major significant* overall *negative* landscape and visual impact. As a result it is considered that the proposal is viewed as having an acceptable level of landscape and visual impact, though undoubtedly the proposal is to expand the capacity of the poultry operation

#### **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. 500m of the proposed development site.

#### **4.3.10 Effect n 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 a Greenfield site adjacent to an existing poultry farm that currently is farmed by the applicant. The proposed development is surrounded by agricultural farmland. The proposed development will not interact with any lands outside the confines of the site, except for the production of a valuable organic fertiliser which may be utilized by farmers as a replacement for chemical fertiliser.

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

The proposed development is a traditional farming practice in this area and, is surrounded by agricultural lands and is located well away from any built up areas and/or development clusters. There are no third party residential dwellings within c. 300m of the proposed development site. The development will have no impact on adjoining property values if for no other reason than there is a significant distance between the proposed development and the residential locations.

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

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

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

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

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

- feed deliveries
- manure transport
- bird deliveries
- Fortnightly waste collection and collection of mortalities.

This will result in an average of 1-2 additional movements/week in addition to current daily attendance at the site by the applicant and traffic associated with cleaning of the houses, inspections, audits, etc.

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

##### (ii) **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. 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 public supply, with back up from on-site well,, 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.

**(iii) *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 the applicant's landholding.

**(iv) *The creation of nuisance***

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

**(v) 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 including to approved disposal/recovery sites, and/or approved carriers.

The volume of organic fertiliser/manure (by-product) produced will be minimised by efficient cleaning out and the use of high pressure low volume 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.

**(vi) 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 production 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) Minimising damage to the environment.

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

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

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

N<sub>2</sub>O emissions can be divided into three areas,

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

The fact that the farmers in the proposed customer farmer list (i.e. the applicant) are allocating organic fertiliser in accordance with the provisions of S.I. 205 of 2017, particularly with regard to amounts applied, weather and ground conditions at the time of spreading, and even application, etc., should ensure that emissions generated are kept to an absolute minimum. Dry manures will spread more evenly, and modern rear emptying muck spreaders are likely to be more precise than side discharging machines.

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

As the birds will be maintained in a controlled environment 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 existing site, operations in similar developments, and on the knowledge that wastes removed from the site for disposal or recovery elsewhere will have negligible impact on the environment around the proposed development.

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

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

#### **4.6 Cumulative and Transboundary Effects**

This proposed poultry farm is located in County Limerick, a county well recognised for its intensive agriculture sector. The closest poultry farm to the proposed development is over 1Km away,

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

The proposed development will not have a cumulative adverse impact on the local environment. It has been demonstrated by the applicant that the existing farming activities that are carried out on-site are done so with no significant adverse impact on the local environment and in compliance with **S.I. 205** of 2017. 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 Limerick area when assessed individually and/or cumulatively with other such developments in this area.

#### **4.7 Inter-relationships**

As a requirement of the European Communities (Environmental Impact Assessment) Amendment Regulations, 1999 (S.I. No. 93 of 1999) (as amended) not only are the individual significant impacts required to be considered, but so must the inter-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	Climate / Climate Change	Landscape & Visual	Noise	Traffic / Roads	Bio – Diversity (Flora & Fauna)	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

#### 4.7.1 Discussion - Positive Impacts

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

- **Impacts of Land / Soil on Human health / population** -the proposed poultry farm will provide for a supply of poultry manure which is a valuable fertiliser used by customer farmers to offset the cost of purchasing chemical fertiliser, and as a resource ingredient in the compost industry. The supply of organic manure will result in a financial gain to the recipient farmers and therefore a net 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 endeavour 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. The impact on human health / population will ultimately result in improvements to material assets.

#### 4.7.2 Discussion - Neutral Impacts

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

- **Impacts of Land / Soil on Water, Landscape & Visual and 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. 205 of 2017 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. 205 of 2017, 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. 205 of 2017. 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 is in excess of 300 m from any existing third party dwelling. Adequate mitigating measures have been described in this E.I.A.R. to ensure that this threat

#### 4.7.3 Potential Impacts and Mitigation Measures

This section presents the significance of potential impacts following the implementation of mitigation measures. The E.P.A. classifies impacts in the recently published E.I.A.R. Guidelines as follows: (See copy in Appendix 11).

<b><u>Impact</u></b>		<b><u>Description</u></b>
<b><u>Quality Of Effects</u></b>	<b><u>Positive Effect</u></b>	A Change which Improves the quality of the environment
	<b><u>Neutral Effect</u></b>	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
	<b><u>Negative Effect</u></b>	A change which reduces the quality of the environment

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

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

<b><u>Describing the Extent and Context of Effects</u></b>	<b><u>Extent</u></b>	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect
	<b><u>Context</u></b>	Describe whether the extent, duration, frequency will confirm or contrast with established (baseline) conditions (is it the biggest, longest effect ever



<u>Describing the Probability of Effects</u>	<u>Likely effects</u>	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented
	<u>Unlikely Effects</u>	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.

I

	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 habits	Neutral	Neutral	Long term	Existing site of no significant ecological importance. Organic fertilizer to replace chemical fertilizer in accordance with S.I. No 31 of 2014, no impact. Integration with existing farm enterprise	None
		Eutrophication	Negative	Neutral	Long Term	High quality development and storm water discharge systems. Nutrient balance / organic fertilizer substitution. Organic fertilizer will replace chemical fertilizer	Slight
	Fresh Water Groundwater	Risk of Contamination	Negative	Neutral	Long Term	Fertilizer planning / Buffer Zones / Codes of Good Practice applied (S.I. No 31 of 2014, Customer Farkmlands).	Slight
	Landscape	Visual Impact	Negative	Neutral	Long Term	Site relatively set low in landscape. Low finished floor level relative to average ground level. Properly landscaped.	Slight
	Archaeology	Disturbance of archaeological finds	Neutral	Neutral	Long Term	No archaeological finds within the site. 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 fertilizers eliminating manufacturing / transport energy use. Integration with existing farming activities.	None

	Category	Potential Environmental Issues / Effects	Potential Impact Site	Potential Impact Customer Lands	Duration	Mitigation	Residual Impact
Human Health / Population	Land / Soil	Fertilizer Substitution	Neutral	Positive	Long term	Loss of agricultural land (site), however not significant due to limited area. Improves profitability by reducing costs and improving output. Integration with existing farming activities	None
		Application of manure	Neutral	Neutral	Long term	Significant requirement for additional organic fertilizer	None
	Community	Vermis and pest infection	Negative	Neutral	Long Term	Control programme to be practiced on farm in line with Bord Bia requirements	None
		Fire Hazards	Negative	Neutral	Long Term	Fire points / extinguishers / staff training	None
	Traffic	Visual Impact	Negative	Neutral	Long Term	Inward / Outward traffic primarily during working hours. Minimise traffic volume by optimising load sizes. Additional short term peak during construction. Good road infrastructure.	Slight
	Noise	Disturbance of archaeological finds	Neutral	Neutral	Long Term	Prioritise activities during normal working hours. Remote Location.	Neutral
	Air	Contribution of greenhouse gases	Positive	Neutral	Short term	Adherence to Code of Good Practice to reduce Odour Emissions at Spreading. High Standard of housing and management and washing between batches. Buffer Zones from sensitive buildings / areas.	None
		Landscape	Neutral	Neutral	Long term	Site location will result in no adverse impact on the environment.	None
	Tourism / Amenities	Water Quality	Neutral	Neutral	Long term	High standard of development and management / Fertilizer planning / Buffer Zones / Code of Good Practice applied / Integration with existing farming activities.	None
	Material Assets	Reduction in material / residential quality	Neutral	N/A	Long / Short term	Site location will ensure that there is no negative impact on the material assets of the area	None

#### **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 developments and well understood. In addition the main principles are substantially similar to that already in practice on numerous other farms locally and throughout the county, and as previously approved by Limerick Co. Co. for this site, albeit at a reduced scale. The technical information on which to base an assessment of impact on environmental parameters is readily available in the public domain.

There were no particular difficulties encountered and there is no reason to consider that there is any serious risk of error attaching to plans and projections for the treatment of wastes to be generated in the proposed development. As stated previously, this planning application and Environmental Impact Assessment Report, relate to the proposed development of 1 No. poultry houses on a site adjacent to an existing poultry farm plus all associated site works and ancillary structures.

The operation of the existing farm in conjunction with the proposed development will be carried out in accordance with the requirements of Limerick 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 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.
- (iv) Provision of soiled water drains to properly collect any effluent or soiled water and divert it to the adjacent 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. 205** of 2017.
- (vi) All construction waste to be managed in accordance with the Construction and Demolition Waste Management Plan contained in Appendix No. 8.
- (vii) Appropriate collection and removal from the site of waste materials generated on the site. Record and maintain records of all consignments of waste despatched from the site in accordance with requirements.
- (viii) The collection and the removal from the site of all dead animals and all animal tissues. A small proportion of the birds maintained on the farm die prematurely. These carcasses are and will be stored in a covered sealed container on site, awaiting collection by an authorised contractor.

Wards Waste is an authorised contractor who regularly removes these carcasses, and any other such material for delivery to the authorised Animal By-products plant at Christendom Ferrybank, Co Waterford, 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.
- (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's requirements under environmental legislation such as S.I. 205 of 2017. 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. 205 of 2017 are met in full by the applicant. This will include;

- The allocation of fertiliser to a registered specialist contractor for use in accordance with the requirements of S.I. 205 of 2017,
- Proper separation of all clean water on site, and the collection of all soiled water in, the soiled water storage tanks.
- Continuous recording of all organic fertiliser transfers off the farm (as per the record 3 form developed by The Department of Agriculture, Food and 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.
- (iii) **Monitoring and analysis.**  
Storm water emission points to be visually inspected and recorded on a weekly basis.

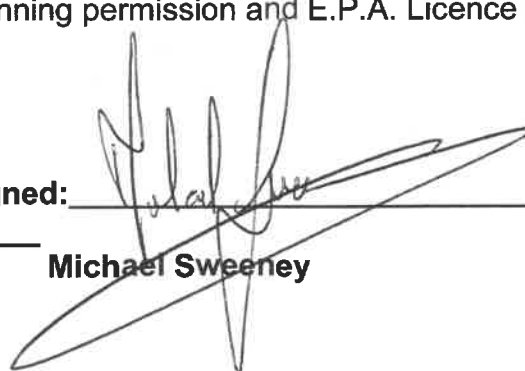
Soiled Water Storage Tanks - To be monitored and recorded as required for remaining storage capacity.  
Noise, Odour and Dust emissions not to cause an adverse environmental impact outside of the site boundary. As per previous licences issued by the Agency the EPA license required for this farm will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

**7 Summary**

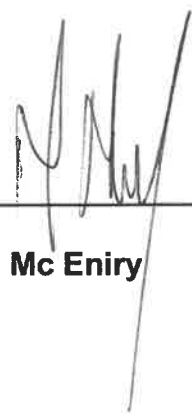
This proposed development involving the construction of 1 No. poultry house adjacent to an existing poultry farm together with ancillary facilities has been subject to Environmental Impact Assessment in accordance with requirements under the Planning and Development Regulations 2001 (as amended). This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

The proposed development as outlined will make a significant positive contribution to the rural economy of Co. Limerick and will serve to increase employment and secure the viability and competitiveness of the applicants' 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. Limerick. 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: \_\_\_\_\_



**Michael Sweeney**



**Michael Mc Eniry**

DATE:

**7<sup>th</sup> Day of December 2018**



**November 2018**



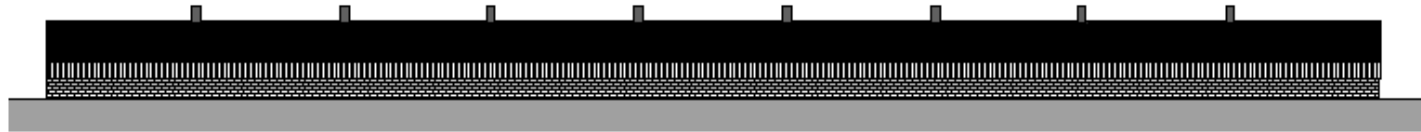
## **INDEX OF APPENDICES**

<b><u>Appendix No 1.</u></b>	<b><u>Site Location Maps, Plans and Drawings</u></b>
<b><u>Appendix No 2.</u></b>	<b><u>Correspondence from MJ Kehoe Transport Ltd</u></b>
<b><u>Appendix No 3.</u></b>	<b><u>Map of associated lands for soiled water</u></b>
<b><u>Appendix No 4.</u></b>	<b><u>BAT Guidelines</u></b>
<b><u>Appendix No 5.</u></b>	<b><u>DAFM S135 Specification for Screening Belts</u></b>
<b><u>Appendix No 6.</u></b>	<b><u>Screen Statement MNJ O'Connor Poultry</u></b>
<b><u>Appendix No 7.</u></b>	<b><u>Wards Waste Collection Permit</u></b>
<b><u>Appendix No 8.</u></b>	<b><u>Construction and Demolition Waste Management <u>Plan</u></u></b>
<b><u>Appendix No 9.</u></b>	<b><u>Section 5.6.1 Limerick County Development Plan for <u>Agriculture</u></u></b>
<b><u>Appendix No 10.</u></b>	<b><u>N.I.S MNP O'Connor's Poultry</u></b>
<b><u>Appendix No 11.</u></b>	<b><u>EPA EIAR Guidelines</u></b>
<b><u>Appendix No 12.</u></b>	<b><u>Letter of acceptance from Custom Compost</u></b>
<b><u>Appendix No 13</u></b>	<b><u>Nitrate Directive Regulation (S.I. No 605 of 2017</u></b>





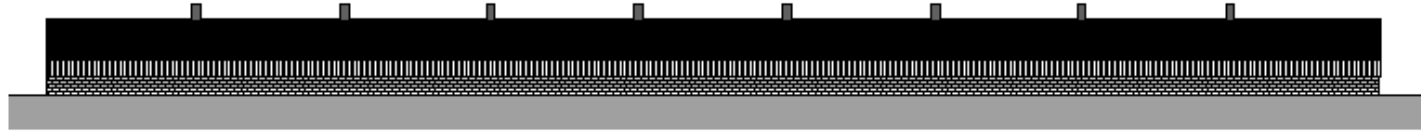
**EAST ELEVATION**  
SCALE 1/200



**SOUTH ELEVATION**  
SCALE 1/200



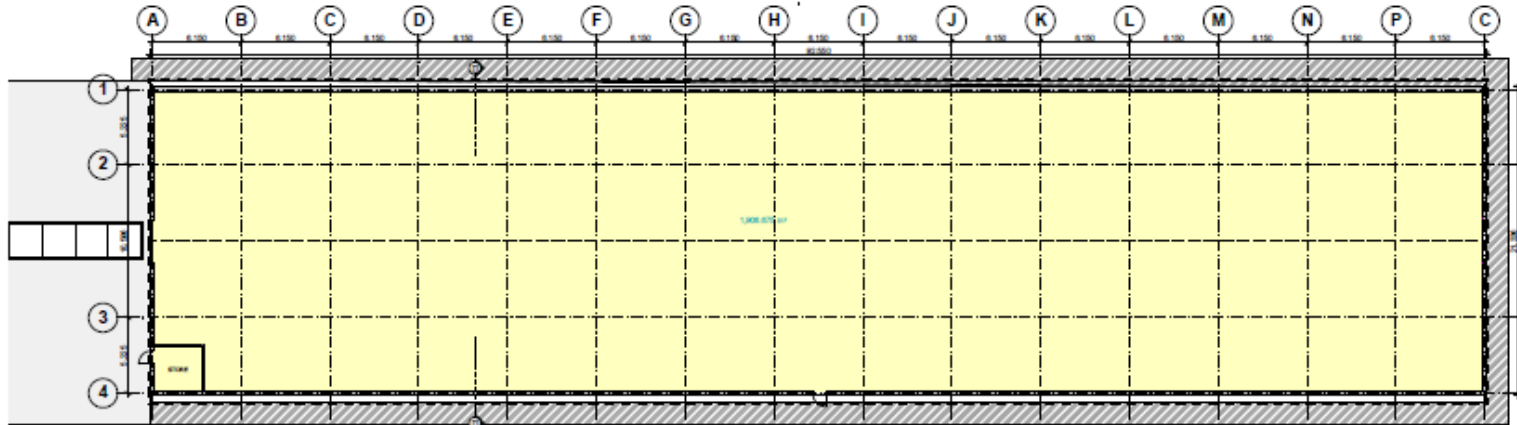
**WEST ELEVATION**  
SCALE 1/200



**NORTH ELEVATION**  
SCALE 1/200



**SECTION AA**  
SCALE 1/200



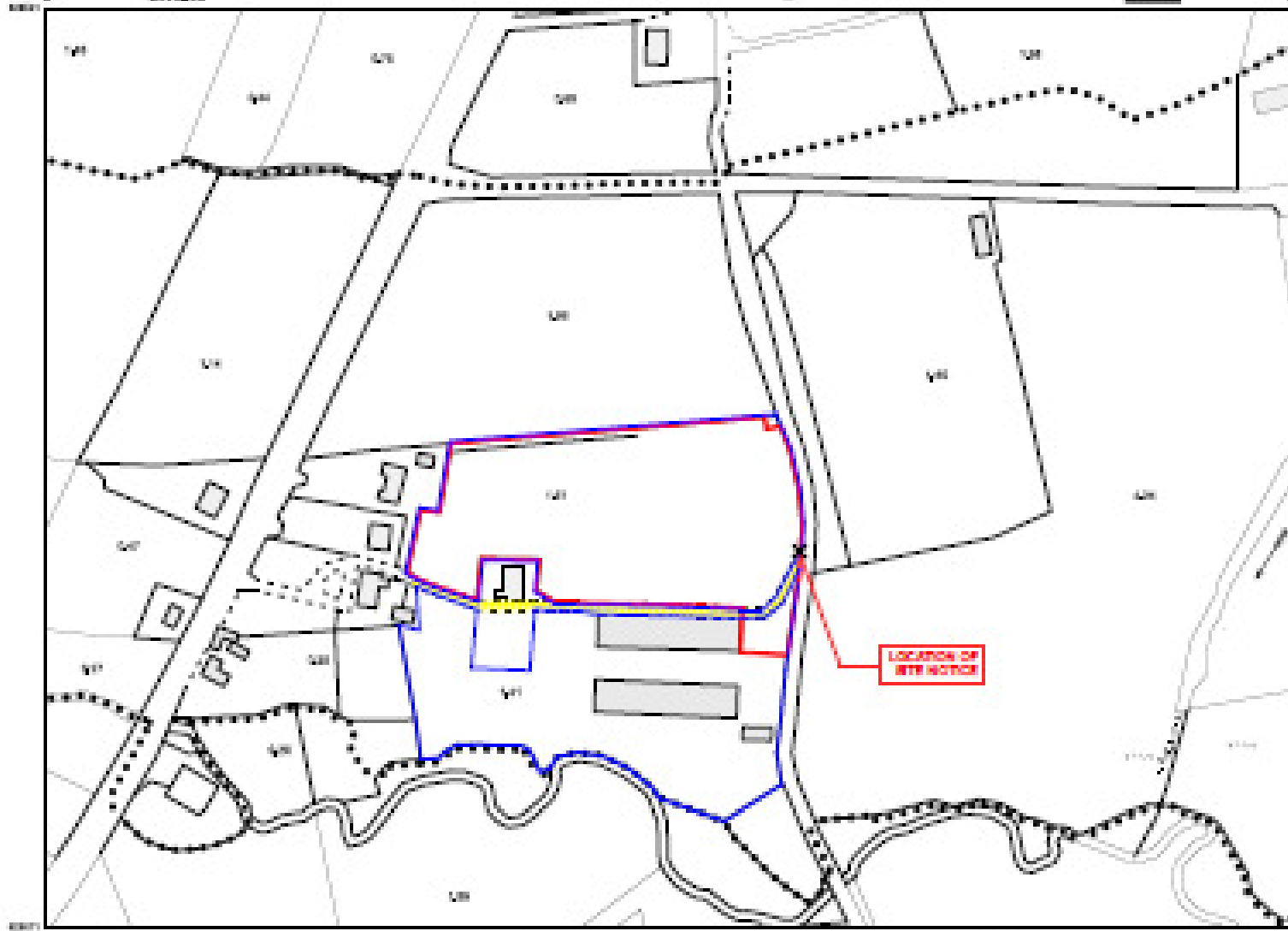
**GROUND FLOOR PLAN** SCALE 1/200

LEGEND	
	Existing Service Road
	Floor area to be retained
	Proposed 1.2m backpath
	Proposed Building Extension
	Existing Structure
	Proposed Structure
	Demolition Area



Surveyed 2000  
Revised 2015  
Levelled

# Rural PLACE Map



- PROPERTY OR LOT
- BOUNDARIES
- ROADS
- MAP SHEETS

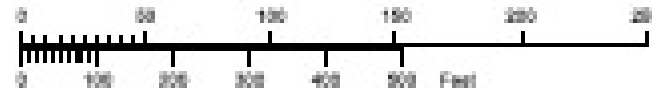
Digital Map  
2015



This map is a digital map of the Rural PLACE area. It is not a legal document and should not be used for legal purposes. The map is based on the most recent available data and is subject to change without notice. The map is provided for informational purposes only. For more information, please contact the relevant authority.

© South African Council of Churches, 2015  
© Council of Churches, 2015

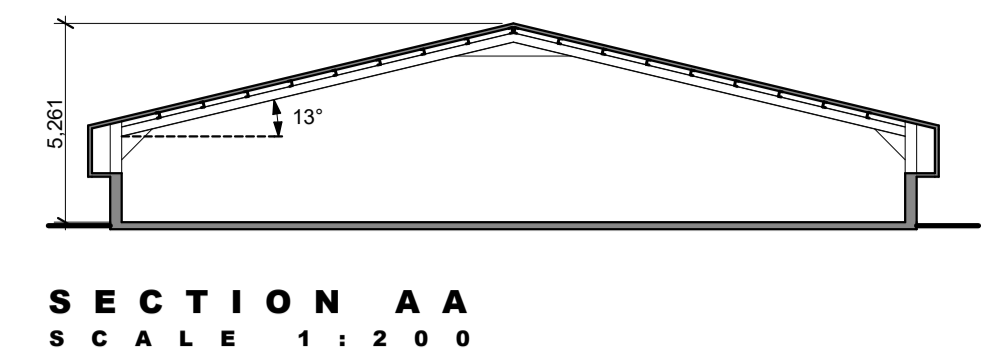
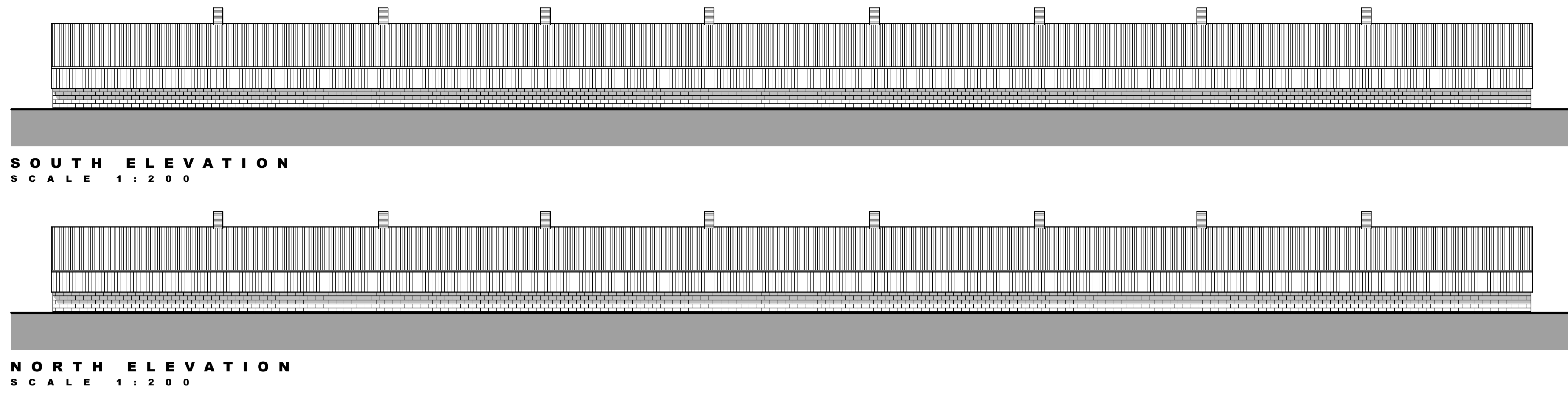
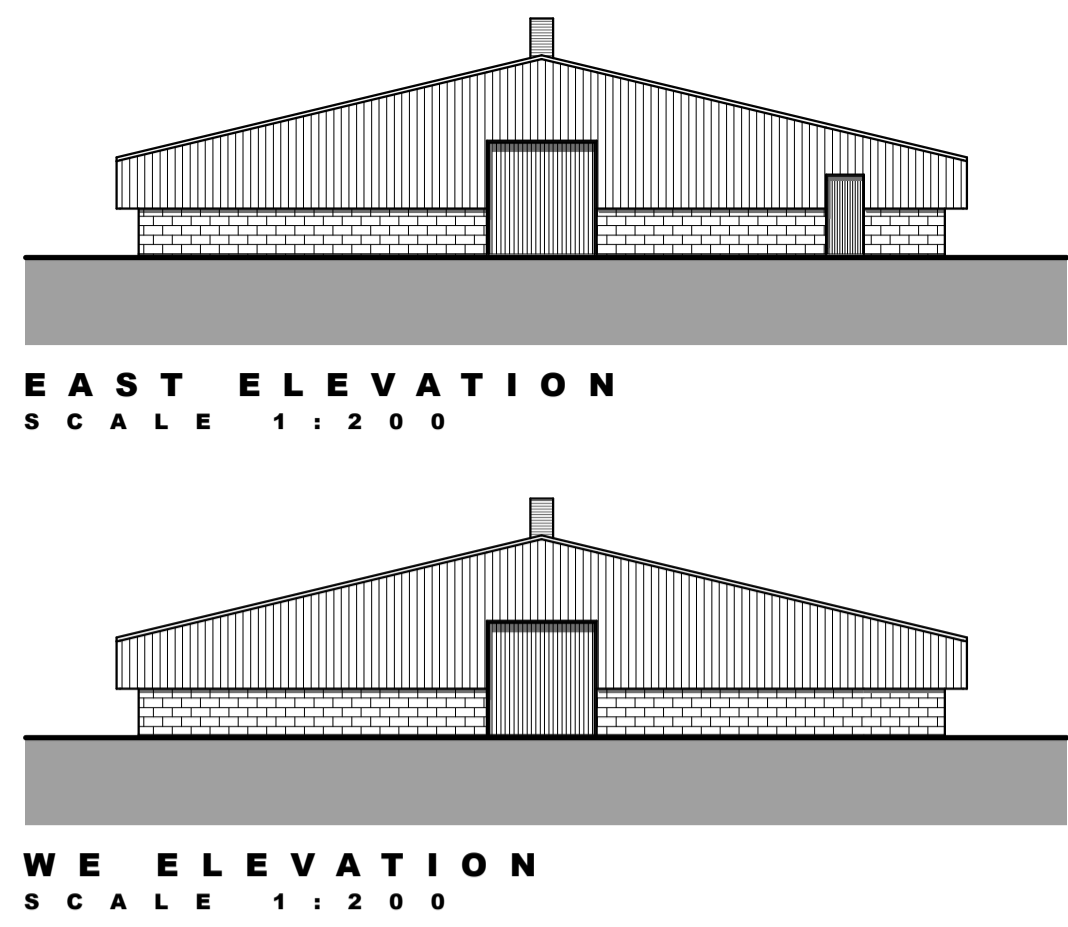
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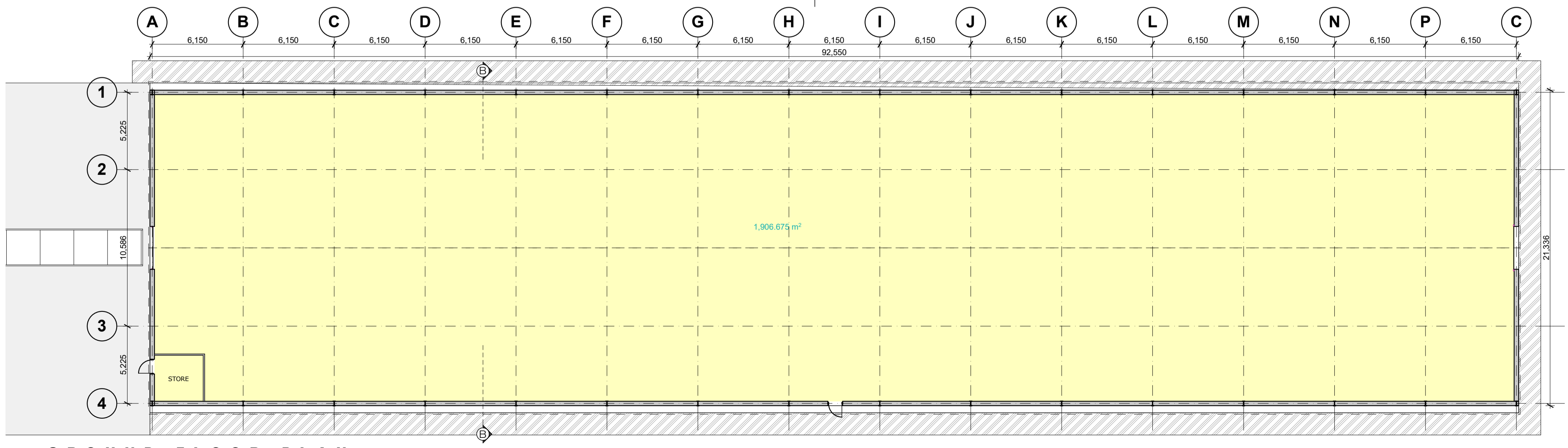
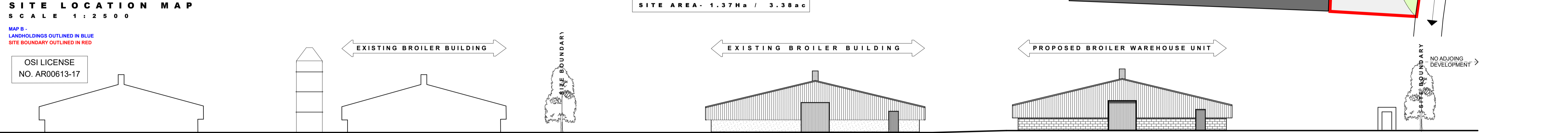
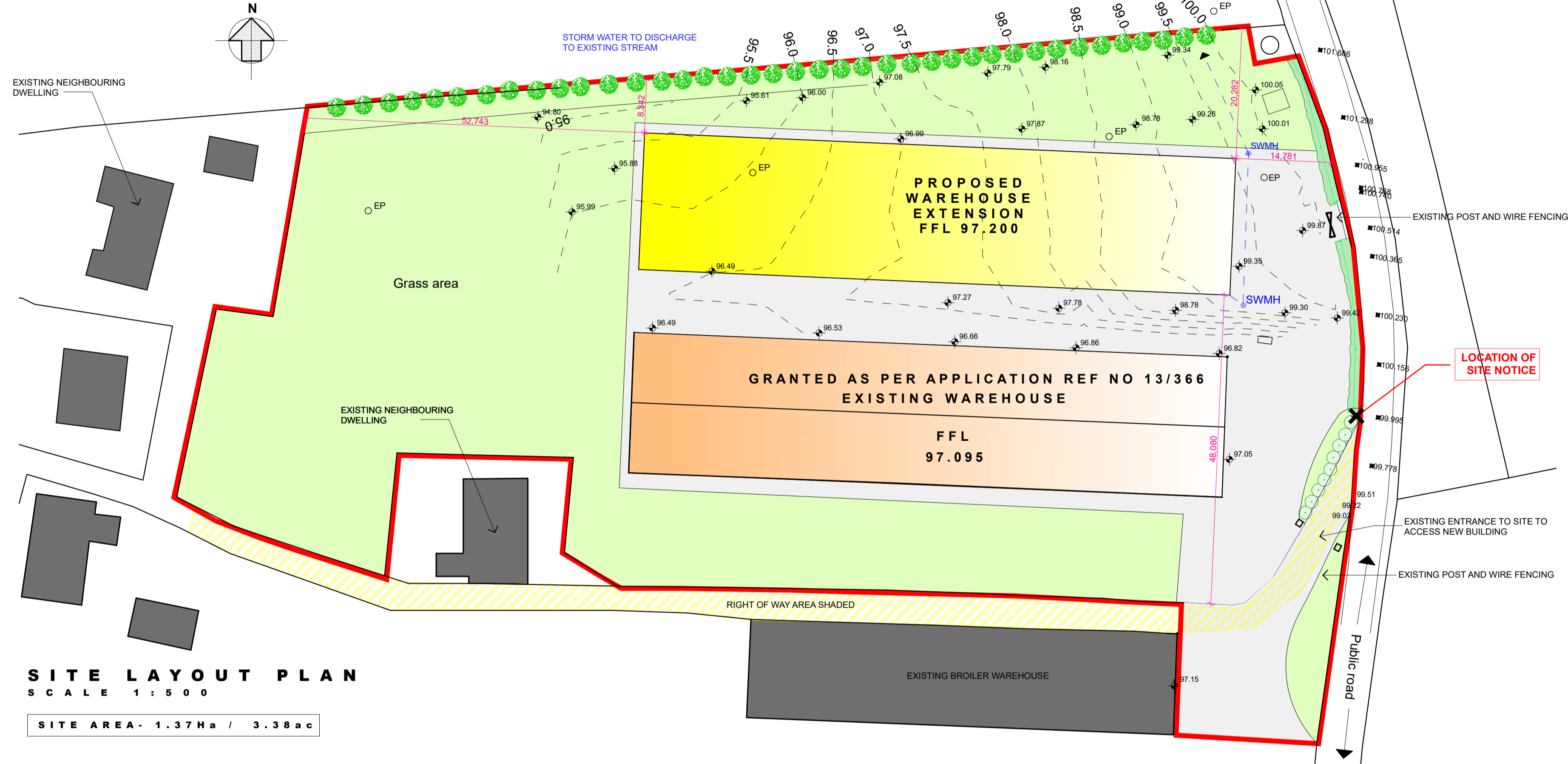
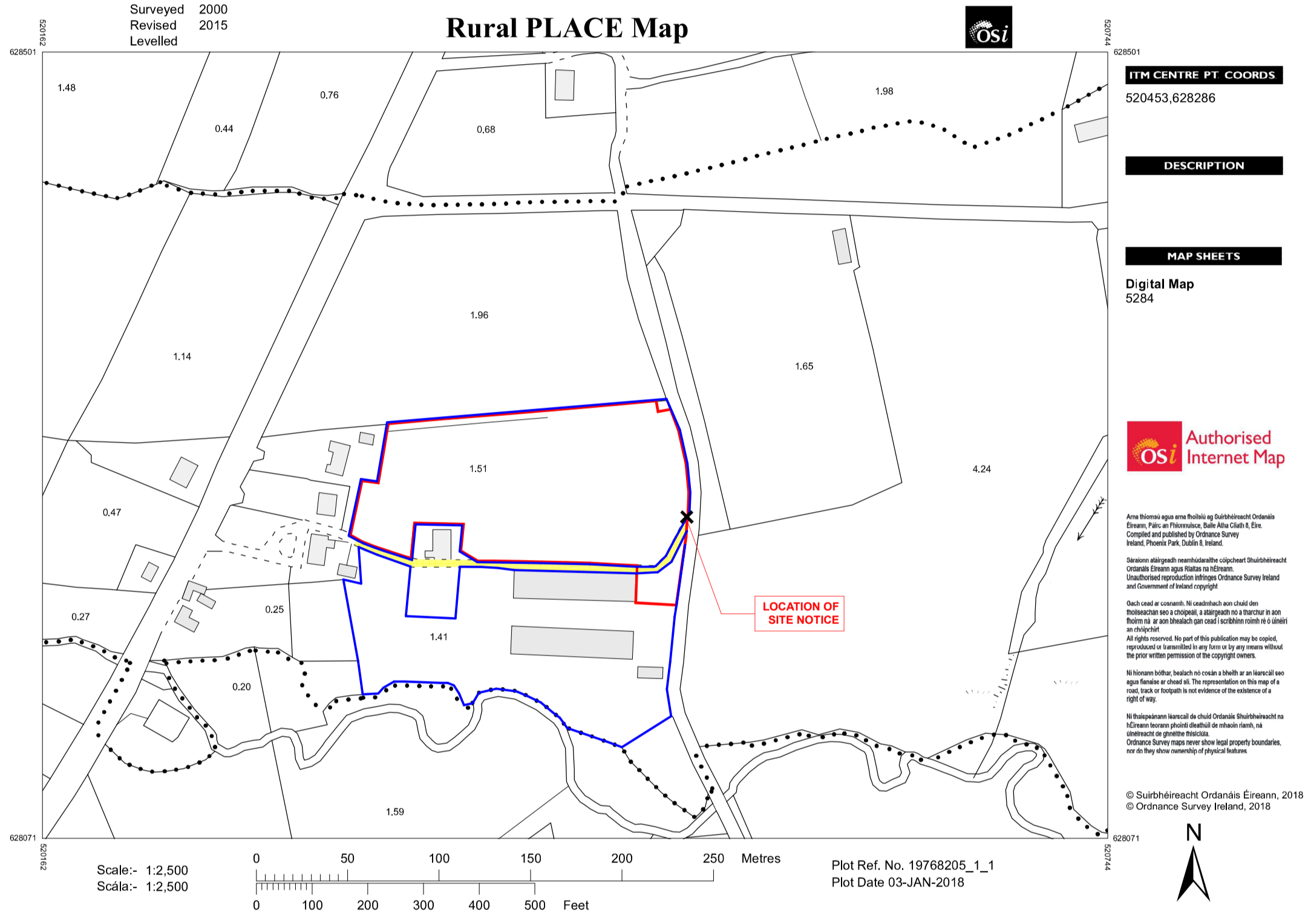
Plot Ref. No. 1518/2015/J  
Plot Date 02-JAN-2015



## S I T E L O C A T I O N M A P S C A L E 1 : 2 0 0 0



- LEGEND**
- Existing Service Road
  - Proposed newly seeded grass
  - Proposed Carparking Spaces
  - Proposed 1.2m footpath
  - Existing Buildings
  - Proposed Building Extensions
  - Site boundaries outlined in RED



**NOTE:**  
THIS DRAWING IS PREPARED SOLELY FOR THE PURPOSES OF COSTINGS AND DO NOT PERTAIN TO SHOW ALL CONSTRUCTION INFORMATION FOR THE PURPOSES OF BUILDING NOR DOES IT PERTAIN TO SHOW ALL INFORMATION REQUIRED FOR COMPLIANCE WITH BUILDING REGULATIONS.

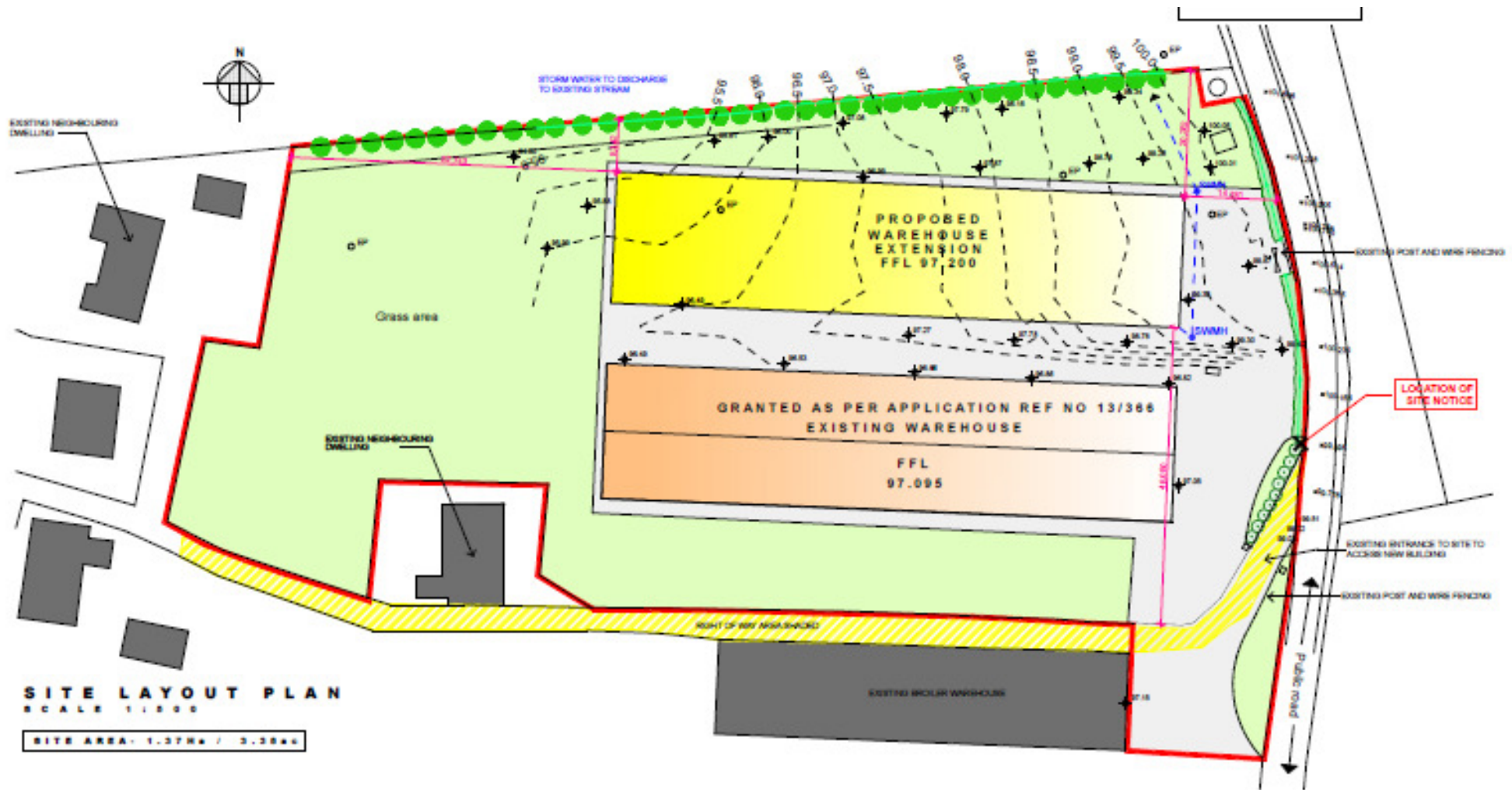
**KENNELLYMURPHY**  
ARCHITECTURE & ENGINEERING

Main Street, Abbeyville, County Limerick  
T: 056 51153  
F: 056 51153  
E: info@kenellymurphy.ie  
www.kenellymurphy.ie

**RIAI**  
REGISTERED ARCHITECT

**RIAI**  
REGISTERED ARCHITECT

<b>Client:</b> PATRICK J. O'CONNOR	<b>Date:</b> JAN '18
<b>Project:</b> PROPOSED BROILER WAREHOUSE	<b>Scale:</b> AS SHOWN
<b>Drawing:</b> SITE LAYOUT PLAN, GROUND FLOOR PLAN, ELEVATIONS, SECTION BB & CONTIGUOUS ELEVATION	<b>Drg No.:</b> PJ 01
<b>Rev No.:</b>	



**SITE LAYOUT PLAN**  
SCALE 1:500

SITE AREA: 1.37Ha / 3.38A

**MJ KEHOE TRANSPORT LTD;**

**KILBRIDE,**

**THE BALLAGH,**

**ENNISCORTHY,**

**CO WEXFORD.**

**PHONE: 053 9136164/087 2534168**

**VAT NUMBER: IE 3198347EH**

To: Julianne O'Brien, N.R.G.E. Ltd; Mooresfort, Lattin, Co Tipperary.

06.06.17

Dear Julianne,

I am writing to confirm that we MJ Kehoe Transport Ltd; are the contractors that remove litter from Michael Noel O Connor's Poultry unit, Templeglantine, New Castle west, Co Limerick. I would also like to confirm that last year 2016, we collected 775.65 Tonnes of litter from the facility.

The proposed destinations of the fertiliser are:

Custom Compost Ltd; Ballyminaun Hill, Gorey, Co Wexford.

Strawchip Ltd; Ballycullane, Athy, co Kildare.

If you require any further information please do not hesitate to contact us.

Kind regards,



MJ Kehoe



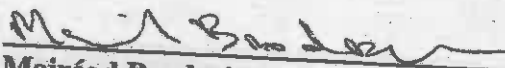
### Certificate of Registration

Registration in accordance with Regulation (EC) No. 1069 of 2009 and Regulation (EU) No. 142 of 2011 and Authorisation to transport animal by-products under the European Union (Animal By-Products) Regulations 2014 (S.I. No 187 of 2014)

Company	M.J. Kehoe		
Address	The Ballagh, Enniscorthy, Co. Wexford		
Registration No.	HAC2340		
Trading Address where receptacles are kept	The Ballagh, Enniscorthy, Co. Wexford		
Receptacle Identification Numbers	MJK (see attached register)		
CRO No.	---		
VAT No.	---		
Map coordinates	---		
Contact details			
Operator	M.J. Kehoe	Title	Owner
Phone	053 9136164	Mobile	087-6144128
Email	barrykehoewex@yahoo.com		
Plant Description	Section XIII: Other Registered Operators in accordance with Article 23(1) of Regulation (EC) No. 1069 of 2009.		
ABP/derived product	Category 2 animal by-product material as set out in Article (9)(2)(a) of Regulation (EC) No. 1069/2009		
Activities	TRANS: Transport of ABP and derived products		
Product	MANU: Unprocessed Manure (Poultry Litter)		
Remarks	This authorisation is subject to the conditions set out in the enclosed document, "CN28 Conditions and guidelines for the registration and regulation of transporters of animal by-products and derived products".		
Valid from	13 <sup>th</sup> October, 2016 to 12 <sup>th</sup> October, 2021		

Dated this 13<sup>th</sup> Day of October, 2016

For the Minister of Agriculture, Food and the Marine

  
Mairéad Broderick

An Officer Authorised by the said Minister



Stamp of Competent Authority





AGRI-MIX



AGRI-MIX

AGRI-MIX





### 1.1. Environmental management systems (EMS)

BAT 1. In order to improve the overall environmental performance of farms, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features:

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
1.	commitment of the management, including senior management;	Applicable	<p>The farm is owned and operated by Michael Noel O' Connor, a second generation poultry farmer. He is also the responsible person and lives close to the farm at Rathcahill West, Templeglantine, Newcastle West, Co. Limerick. Michael Noel O' Connor has at no stage been convicted under the EPA Act 1992, as amended, the Waste Management Act 1996 as amended, the Local Government (water pollution) Acts 1977 and 1990 or the Air Pollution Act 1987 and is committed to the implementation and adherence of the EMS onsite.</p> <p>An EMS is implemented within the site. This includes the identification and monitoring of various environmental aspects on site, mainly the monitoring of:</p> <ul style="list-style-type: none"> <li>• water (surface and ground),</li> <li>• noise,</li> <li>• air,</li> <li>• waste management</li> </ul> <p>The EMS implements measures and procedures for the prevention of accidents in the carrying out of day to day operations with regards to accidental emissions and emergency situations which may arise including for the training, awareness of employees with regards to the EMS plan i.e. toolbox talks. The EMS also includes for provisions with regards to accidental emissions and emergency situations which may arise outside of normal working hours.</p> <p>The EMS provides details relating to the documentation of all incidents and all environmental</p>
2.	definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation;		
3.	planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment;		
4.	implementation of procedures paying particular attention to: (a) structure and responsibility; (b) training, awareness and competence; (c) communication; (d) employee involvement; (e) documentation; (f) effective process control; (g) maintenance programmes; (h) emergency preparedness and response; (i) safeguarding compliance with environmental legislation.		
5.	checking performance and taking corrective action, paying particular attention to: (a) monitoring and measurement (see also the JRC Reference Report on Monitoring of emissions from IED installations — ROM); (b) corrective and preventive action; (c) maintenance of records; (d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained;		
6.	review of the EMS and its continuing suitability, adequacy and effectiveness by senior management;		
7.	following the development of cleaner technologies;		
8.	consideration for the environmental impacts from the eventual		

	decommissioning of the installation at the stage of designing a new plant, and throughout its operating life;		monitoring carried out.
9.	application of sectoral benchmarking (e.g. EMAS Sectoral Reference Document) on a regular basis. Specifically for the intensive poultry or pig rearing sector, BAT is also to incorporate the following features in the EMS:		Michael O' Connor keeps accurate records and management insures that work is carried out professional and that records are appropriately maintained. All the figures in relation to performance are calculated on a yearly basis. Records of growth rates, food conversion efficiency and mortality in each stage of the growth help to ensure that efficiency is maintained. These measurements together with the weight determine the value of the end product. Vermin baiting programmes are followed, according to An Bord Bia standards. Records of these programmes are kept in the flock records. The management of the farm maintains detailed waste management records onsite for disposal of animal carcasses, veterinary waste, general refuse etc. A record is also maintained of poultry manure to Custom Compost, Co. Wexford.
10.	implementation of a noise management plan (see BAT 9);		
11.	implementation of an odour management plan (see BAT 12).		<p>An Emergency Response Procedure has been put in place for this facility. This procedure sets out the contact numbers of all the key personnel on-site, who are the responsible people. It also identifies the emergency contact numbers of relevant contractors and specialists that may be required in the event of an emergency. It further includes contact numbers for local Gardai, fire brigade and doctors. This procedure is laminated and erected at a number of key locations around the facility. A register is in place to record all notifiable events on-site in the event of such an incident.</p> <p>A review of both the EMS and the Emergency Response Procedures are carried out on a continuous basis.</p> <p>All poultry units require a major capital investment every 10-20 years to keep them efficient and pleasant places to work. So long as this investment is made</p>

			<p>there is no reason that a unit of this type could not operate for up to 40 years. A Closure Restoration and Aftercare Management Plan, Environmental Liability Risk Assessment and Financial Provision Plan is proposed to be carried out on the Unit.</p> <p>Depopulation of a unit occurs when a notifiable disease becomes so rampant on a unit that poultry production becomes uneconomic. In the unlikely event of such a disease outbreak, the Department of Agriculture takes total control.</p> <p>A noise management plan has been prepared, and submitted to the EPA accompanying an IE Licence Application.</p> <p>There is no proposed monitoring for dust or odour at the Poultry Unit. If any complaints are received, a follow-up investigation will be initiated and all results made available to the Local Authority and EPA for inspection.</p>
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**1.2 Good housekeeping**

BAT 2. In order to prevent or reduce the environmental impact and improve overall performance, BAT is to use all the techniques given below.

	<b>Technique</b>	<b>Applicability Assessment (describe how the technique applies or not to your installation)</b>	<b>State whether it is in place or state schedule for implementation</b>
a.	<p>Proper location of the plant/farm and spatial arrangements of the activities in order to:</p> <ul style="list-style-type: none"> <li>— reduce transport of animals and materials (including manure);</li> <li>— ensure adequate distances from sensitive receptors requiring protection;</li> <li>— take into account prevailing climatic conditions (e.g. wind and precipitation);</li> <li>— consider the potential future development capacity of the farm;</li> <li>— prevent the contamination of water.</li> </ul>	Applicable	<p>The buildings and its layout is state of the art for the industry. A thorough review was undertaken of the best available techniques to minimise emissions from the unit and to maximise welfare conditions for animals and staff alike on-site during the initial planning stages.</p> <p>On site activities will only be carried out during normal working hours i.e. 08:00 – 18:00.</p> <p>All storm water from the yard is diverted via a clean water drainage system to a single storm water</p>

			<p>monitoring point indicated as SW1 on the Site Layout Plan which discharges to a small drainage ditch. This monitoring point is inspected weekly and sampled quarterly for COD at an Independent Laboratory.</p> <p><b>Poultry Litter</b> The poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.</p> <p><b>Soiled water</b> Soiled water arising from the washing down of the accommodation houses is utilised on the applicant's land adjacent to the unit and amounts to approximately 5 vacuum tanks a year. The application of the soiled water is regulated under the EU (Good Agricultural Practice for the Protection of Waters) 2014 S.I. 31 of 2014.</p> <p>On site there are currently 2 no 37.6 m3 precise underground effluent tanks which hold all washings from the poultry houses and soiled water from the yards. This tank's construction conforms to the Department of Agriculture, Food and the Marine's specification S123 Minimum Specification for Bovine Livestock Units and Reinforced Tanks - March 2006.</p> <p>A working house-keeping plan is in place.</p>
b.	Educate and train staff, in particular for: <ul style="list-style-type: none"> <li>— relevant regulations, livestock farming, animal health and welfare, manure management, worker safety;</li> <li>— manure transport and landspreading;</li> <li>— planning of activities;</li> <li>— emergency planning and management;</li> <li>— repair and maintenance of equipment.</li> </ul>	Applicable	Toolbox talks are carried out regularly on site between staff and management in relation to the running of the Unit.
c.	Prepare an emergency plan for dealing with unexpected emissions	Applicable	An Emergency Response Procedure has been put in

	and incidents such as pollution of water bodies. This can include: — a plan of the farm showing the drainage systems and water/effluent sources; — plans of action for responding to certain potential events (e.g. fires, leaking or collapsing of slurry stores, uncontrolled run-off from manure heaps, oil spillages); — available equipment for dealing with a pollution incident (e.g. equipment for plugging land drains, damming ditches, scum boards for oil spillages).		place for this facility. This procedure sets out the contact numbers of all the key personnel on-site, who are the responsible people. It also identifies the emergency contact numbers of relevant contractors and specialists that may be required in the event of an emergency. It further includes contact numbers for local Gardai, fire brigade and doctors. This procedure is laminated and erected at a number of key locations around the facility. A register is in place to record all notifiable events on-site in the event of such an incident. A review of these procedures is carried out on a continuous basis.
d.	Regularly check, repair and maintain structures and equipment, such as: — slurry stores for any sign of damage, degradation, leakage; — slurry pumps, mixers, separators, irrigators; — water and feed supply systems; — ventilation system and temperature sensors; — silos and transport equipment (e.g. valves, tubes); — air cleaning systems (e.g. by regular inspections). This can include cleanliness of the farm and pest management.	Applicable	The applicant implements and maintains a comprehensive monitoring and maintenance programme on site to provide maximum protection for the environment, animals and staff alike.
e.	Store dead animals in such a way as to prevent or reduce emissions.	Applicable	Bird carcasses will be temporarily stored in a covered sealed metal skip for transport and disposal to a licensed rendering plant at regular intervals. A register is maintained on site of all collections of animal carcasses

### 1.3 Nutritional management

BAT 3. In order to reduce total nitrogen excreted and consequently ammonia emissions while meeting the nutritional needs of the animals, BAT is to use a diet formulation and nutritional strategy which includes one or a combination of the techniques given below.

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	Reduce the crude protein content by using an N-balanced diet based on the energy needs and digestible amino acids.	Not applicable	Not in place
b.	Multiphase feeding with a diet formulation adapted to the specific requirements of the production period.		
c.	Addition of controlled amounts of essential amino acids to a low		



	crude protein diet.		
d.	Use of authorised feed additives which reduce the total nitrogen excreted.		
BAT 4. In order to reduce the total phosphorus excreted, while meeting the nutritional needs of the animals, BAT is to use a diet formulation and a nutritional strategy which includes one or a combination of the techniques given below.			
a.	Multiphase feeding with a diet formulation adapted to the specific requirements of the production period.	Not applicable	Not in place
b.	Use of authorised feed additives which reduce the total phosphorus excreted (e.g. phytase).		
c.	Use of highly digestible inorganic phosphates for the partial replacement of conventional sources of phosphorus in the feed		
<b>1.4. Efficient use of water</b>			
BAT 5. In order to use water efficiently, BAT is to use a combination of the techniques given below.			
	<b>Technique</b>	<b>Applicability Assessment (describe how the technique applies or not to your installation)</b>	<b>State whether it is in place or state schedule for implementation</b>
a.	Keep a record of water use.	Applicable	Records are kept of water usage
b.	Detect and repair water leakages.	Applicable	The applicant implements and maintains a comprehensive monitoring and maintenance programme on site to provide maximum protection for the environment, animals and staff alike.
c.	Use high-pressure cleaners for cleaning animal housing and equipment.	Applicable	Power-washers in place and in use.
d.	Select and use suitable equipment (e.g. nipple drinkers, round drinkers, water troughs) for the specific animal category while ensuring water availability ( <i>ad libitum</i> ).	Applicable	Nipple type drinkers are in place. Monitoring is place to ensure there is sufficient water available.
e.	Verify and (if necessary) adjust on a regular basis the calibration of the drinking water equipment.	Applicable	The applicant implements and maintains a comprehensive monitoring and maintenance programme on site to provide maximum protection for the environment, animals and staff alike.
f.	Reuse uncontaminated rainwater as cleaning water.	Not applicable	Not in place. The Applicant ensures that water usage is kept to a minimum due to the cost of pumping water to wash houses. However, where the Applicant feels that financial gain can be made, the installation of a rainwater harvesting system will be suggested.

### 1.5. Emissions from waste water

BAT 6. In order to reduce the generation of waste water, BAT is to use a combination of the techniques given below.

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	Keep the fouled yard areas as small as possible.	Applicable	
b.	Minimise use of water.	Applicable	The Applicant ensures that water usage is kept to a minimum due to the cost of pumping water to wash houses.
c.	Segregate uncontaminated rainwater from waste water streams that require treatment.	Applicable	All storm water run-off water from the existing site is collected via a clean storm water collection system and monitored quarterly for COD through monitoring point SW1.

BAT 7. In order to reduce emissions to water from waste water, BAT is to use one or a combination of the techniques given below.

a.	Drain waste water to a dedicated container or to a slurry store.	Applicable	All soiled water from the site is diverted to the storage tanks.
b.	Treat waste water.	Not applicable	No treatment is required
c.	Landspreading of waste water e.g. by using an irrigation system such as sprinkler, travelling irrigator, tanker, umbilical injector.	Applicable	Soiled water arising from the washing down of the accommodation houses is utilised on the applicant's land adjacent to the unit and amounts to approximately 5 vacuum tanks a year. The application of the soiled water is regulated under the EU (Good Agricultural Practice for the Protection of Waters) 2014 S.I. 31 of 2014.

### 1.6. Efficient use of energy

BAT 8. In order to use energy efficiently in a farm, BAT is to use a combination of the techniques given below.

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	High efficiency heating/cooling and ventilation systems.	Applicable	Gas heating is installed in each poultry house.
b.	Optimisation of heating/cooling and ventilation systems and management, especially where air cleaning systems are used.	Applicable	The applicant implements and maintains a comprehensive monitoring and maintenance programme on site to provide maximum protection for the environment, animals and staff alike.
c.	Insulation of the walls, floors and/or ceilings of animal housing.	Applicable	The farm buildings are built taking heed of Best Available Techniques which involve the inclusion of a

			high standard of insulation which reduces the requirements for heating and fossil fuel consumption.
d.	Use of energy-efficient lighting.	Applicable	All artificial lighting will be used in the accommodation houses, offices and outside yards and will be low energy lighting. Location of lighting will be strategically planned.
e.	Use of heat exchangers. One of the following systems may be used: 1. air-air; 2. air-water; 3. air-ground.	Not Applicable	Not in place
f.	Use of heat pumps for heat recovery.	Not Applicable	Not in place
g.	Heat recovery with heated and cooled littered floor (combideck system).	Not Applicable	Not in place
h.	Apply natural ventilation.	Applicable	There is no artificial ventilation in the accommodation houses.

### 1.7. Noise Emissions

BAT 9 is only applicable to cases where a noise nuisance at sensitive receptors is expected and/or has been substantiated.

BAT 10. In order to prevent, or where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given below.

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	Ensure adequate distances between the plant/farm and the sensitive receptors.	Applicable	Applicable Noise levels from the development are unlikely to be a nuisance. The main sources of noise on the development will be from the general farm operations at the site including site traffic, delivery of feed and collection of birds and litter. In addition, operations on site include feeding times and water systems. However, at a distance of 100 metres from the development noise levels are not greatly above ambient background noise levels. To date there has been no direct noise or odour related complaints made to the existing poultry unit.
b.	Equipment location		
c.	Operational measures.		
d.	Low-noise equipment.		
e.	Noise-control equipment.		
f.	Noise abatement.		

### 1.8. Dust emissions

BAT 11. In order to reduce dust emissions from each animal house, BAT is to use one or a combination of the techniques given below.

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
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a.	Reduce dust generation inside livestock buildings. For this purpose, a combination of the following techniques may be used:	Applicable	<p>There is no proposed monitoring for dust or odour at the Poultry Unit. In the event that dust or odour from the proposed development is creating an environmental nuisance. An ambient dust deposition survey will be carried out by a quality specialist and mitigation measures will be developed to eliminate the nuisance. In the event of an odour nuisance an investigation following the EPA Air Guidance on Odour Assessment (AG5) will be initiated.</p> <p>The houses operate on a batch system. Following de-population from the previous batch, the houses are cleaned of litter, washed and disinfected. The Applicant utilises a bedding of wood shaving in the 3 no accommodation houses. The houses are then repopulated with day old chicks. These are fed and watered using an automatic system.</p>
1.	<ol style="list-style-type: none"> <li>1. Use coarser litter material (e.g. long straw or wood shavings rather than chopped straw);</li> <li>2. Apply fresh litter using a low-dust littering technique (e.g. by hand);</li> <li>3. Apply ad libitum feeding;</li> <li>4. Use moist feed, pelleted feed or add oily raw materials or binders in dry feed systems;</li> <li>5. Equip dry feed stores which are filled pneumatically with dust separators;</li> <li>6. Design and operate the ventilation system with low air speed within the house.</li> </ol>	Applicable	
b.	Reduce dust concentration inside housing by applying one of the following techniques:	Not application	
	1. Water fogging;		
	2. Oil spraying;		
	3. Ionisation.	Not applicable	
c.	Treatment of exhaust air by an air cleaning system, such as		
	1. Water trap;		
	2. Dry filter;		

	3. Water scrubber;		
	4. Wet acid scrubber;		
	5. Bioscrubber (or biotrickling filter);		
	6. Two-stage or three-stage air cleaning system;		
	7. Biofilter.		

### 1.9. Odour emissions

BAT 12. In order to prevent, or where that is not practicable, to reduce odour emissions from a farm, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes the following elements:

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
	i. a protocol containing appropriate actions and timelines; ii. a protocol for conducting odour monitoring; iii. a protocol for response to identified odour nuisance; iv. an odour prevention and elimination programme designed to e.g. identify the source(s), to monitor odour emissions (see BAT 26), to characterise the contributions of the sources and to implement elimination and/or reduction measures; v. a review of historical odour incidents and remedies and the dissemination of odour incident knowledge. The associated monitoring is in BAT 26.	Not applicable	There is no proposed monitoring for dust or odour at the Poultry Unit. In the event that dust or odour from the proposed development is creating an environmental nuisance. An ambient dust deposition survey will be carried out by a quality specialist and mitigation measures will be developed to eliminate the nuisance. In the event of an odour nuisance an investigation following the EPA Air Guidance on Odour Assessment (AG5) will be initiated.

BAT 12 is only applicable to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.

BAT 13. In order to prevent or, where that is not practicable, to reduce odour emissions and/or odour impact from a farm, BAT is to use a combination of the techniques given below.

a.	Ensure adequate distances between the farm/plant and the sensitive receptors.	Not applicable	There is no proposed monitoring for dust or odour at the Poultry Unit. In the event that dust or odour from the proposed development is creating an environmental nuisance. An ambient dust deposition survey will be carried out by a quality specialist and mitigation measures will be developed to eliminate the nuisance. In the event of an odour nuisance an investigation following the EPA Air Guidance on Odour Assessment (AG5) will be initiated.
b.	Use a housing system which implements one or a combination of the following principles: <ul style="list-style-type: none"> <li>— keeping the animals and the surfaces dry and clean (e.g. avoid feed spillages, avoid dung in lying</li> </ul>		

	<ul style="list-style-type: none"> <li>— areas of partly slatted floors);</li> <li>— reducing the emitting surface of manure (e.g. use metal or plastic slats, channels with a reduced exposed manure surface);</li> <li>— removing manure frequently to an external (covered) manure store;</li> <li>— reducing the temperature of the manure (e.g. by slurry cooling) and of the indoor environment;</li> <li>— decreasing the air flow and velocity over the manure surface;</li> <li>— keeping the litter dry and under aerobic conditions in litter-based systems.</li> </ul>		
c.	<p>Optimise the discharge conditions of exhaust air from the animal house by using one or a combination of the following techniques:</p> <ul style="list-style-type: none"> <li>— increasing the outlet height (e.g. exhaust air above roof level, stacks, divert air exhaust through the ridge instead of through the low part of the walls);</li> <li>— increasing the vertical outlet ventilation velocity;</li> <li>— effective placement of external barriers to create turbulence in the outgoing air flow (e.g. vegetation);</li> <li>— adding deflector covers in exhaust apertures located in low parts of walls in order to divert exhaust air towards the ground;</li> <li>— dispersing the exhaust air at the housing side which faces away from the sensitive receptor;</li> <li>— aligning the ridge axis of a naturally ventilated building transversally to the prevailing wind direction.</li> </ul>		

d.	Use an air cleaning system, such as: 1. Bioscrubber (or biotrickling filter); 2. Biofilter; 3. Two-stage or three-stage air cleaning system.		
e.	Use one or a combination of the following techniques for storage of manure:		
	1. Cover slurry or solid manure during storage;		
	2. Locate the store taking into account the general wind direction and/or adopt measures to reduce wind speed around and above the store (e.g. trees, natural barriers);		
	3. Minimise stirring of slurry.		
f.	Process manure with one of the following techniques in order to minimise odour emissions during (or prior to) landspreading:		
	1. Aerobic digestion (aeration) of slurry;		
	2. Compost solid manure;		
	3. Anaerobic digestion.		
g.	Use one or a combination of the following techniques for manure landspreading:		
	1. Band spreader, shallow injector or deep injector for slurry landspreading;		
	2. Incorporate manure as soon as possible.		

### 1.10. Emissions from solid manure storage

BAT 14. In order to reduce ammonia emissions to air from the storage of solid manure, BAT is to use one or a combination of the techniques given below.

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	Reduce the ratio between the emitting surface area and the volume of the solid manure heap.	Not Applicable	The poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.
b.	Cover solid manure heaps.		
c.	Store dried solid manure in a barn.		

BAT 15. In order to prevent, or where that is not practicable, to reduce emissions to soil and water from the storage of solid manure, BAT is to use a combination of the techniques given below in the following order of priority.

a.	Store dried solid manure in a barn.	Not Applicable	The poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.
b.	Use a concrete silo for storage of solid manure.		
c.	Store solid manure on solid impermeable floor equipped with a drainage system and a collection tank for the run-off.		
d.	Select a storage facility with a sufficient capacity to hold the solid manure during periods in which landspreading is not possible.		
e.	Store solid manure in field heaps placed away from surface and/or underground watercourses which liquid run-off might enter.		

### 1.11. Emissions from slurry storage

BAT 16. In order to reduce ammonia emissions to air from a slurry store, BAT is to use a combination of the techniques given below.

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	Appropriate design and management of the slurry store by using a combination of the following techniques:	Applicable	<p>Soiled water</p> <p>Soiled water arising from the washing down of the accommodation houses is utilised on the applicant's land adjacent to the unit and amounts to approximately 5 vacuum tanks a year. The application of the soiled water is regulated under the EU (Good Agricultural Practice for the Protection of Waters) 2014 S.I. 31 of 2014.</p> <p>On site there are currently 2 no 37.6 m3 precise underground effluent tanks which hold all washings from the poultry houses and soiled water from the yards. This tank's construction conforms to the Department of Agriculture, Food and the Marine's specification S123 Minimum Specification for Bovine Livestock Units and Reinforced Tanks - March 2006.</p> <p>A working house-keeping plan is in place.</p>
	1. Reduce the ratio between the emitting surface area and the volume of the slurry store;		
	2. Reduce wind velocity and air exchange on the slurry surface by operating the store at a lower level of fill;		
	3. Minimise stirring of slurry.		
b.	Cover the slurry store. For this purpose, one of the following techniques may be used:		
	1. Rigid cover;		
	2. Flexible covers;		
	3. Floating covers such as: <ul style="list-style-type: none"> <li>— plastic pellets;</li> <li>— light bulk materials;</li> <li>— floating flexible covers;</li> </ul>		



	<ul style="list-style-type: none"> <li>— geometrical plastic tiles;</li> <li>— air-inflated cover;</li> <li>— natural crust;</li> <li>— straw.</li> </ul>		
c.	Slurry acidification.	Not applicable	Not required onsite
<p>BAT 17. In order to reduce ammonia emissions to air from an earth-banked slurry store (lagoon), BAT is to use a combination of the techniques given below.</p> <p>Not applicable</p>			
<p>BAT 18. In order to prevent emissions to soil and water from slurry collection, piping, and from a store and/or an earth-banked storage (lagoon), BAT is to use a combination of the techniques given below.</p> <p>Not applicable</p>			
<b>1.12. On farm processing of manure</b>			
<p>BAT 19. If on-farm processing of manure is used, in order to reduce emissions of nitrogen, phosphorus, odour and microbial pathogens to air and water and facilitate manure storage and/or landspreading, BAT is to process the manure by applying one or a combination of the techniques given below.</p>			
	<b>Technique</b>	<b>Applicability Assessment (describe how the technique applies or not to your installation)</b>	<b>State whether it is in place or state schedule for implementation</b>
Not applicable			
<b>1.13. Manure landspreading</b>			
<p>BAT 20. In order to prevent or, where that is not practicable, to reduce emissions of nitrogen, phosphorus and microbial pathogens to soil and water from manure landspreading, BAT is to use all the techniques given below.</p>			
	<b>Technique</b>	<b>Applicability Assessment (describe how the technique applies or not to your installation)</b>	<b>State whether it is in place or state schedule for implementation</b>
a.	<p>Assess the manure receiving land to identify risks of run-off, taking into account:</p> <ul style="list-style-type: none"> <li>— soil type, conditions and slope of the field;</li> <li>— climatic conditions;</li> <li>— field drainage and irrigation;</li> <li>— crop rotations;</li> <li>— water resources and water protected zones.</li> </ul>	Applicable	<p>The following mitigation measures with regards to land-spreading:</p> <p>In order to minimise risks to water it is essential that careful planning is done regarding the application of soiled water with consideration to weather, drain-flow, soil conditions, nutrient requirements and field situation to reduce the risk of the soiled water reaching water.</p> <p>Managed and used in this way, the soiled water produced at this facility will not have any adverse impact on environmental parameters either inside or outside the site.</p>
b.	Keep sufficient distance between manure spreading fields (leaving an untreated strip of land) and:		

	<p>1. areas where there is a risk of run-off to water such as watercourses, springs, boreholes, etc.;</p> <p>2. neighbouring properties (including hedges).</p>		<p>In order to adhere to the relevant legislation and to minimise the risk of pollution associated with the landspreading of the soiled water, the following measures are followed:</p> <p>The soiled water is applied to the land in as accurate and uniform a manner as possible, using spreading machinery correctly calibrated and in good condition.</p> <p>The soiled water should only be applied using a low trajectory spreaders, band spreaders or injection methods. Spray drift must be avoided and so the use of machinery with an upward facing splashplate is not permitted.</p> <p>The soiled water is not spread during the periods outlined in schedule 4 of the Good Agricultural Practice for Protection of Waters 2010, including amendments S.I. 125 of 2011 and S.I. 134 of 2014 or when heavy rain is forecast within the next 48 hours.</p> <p>The quantity of soiled water applied to the land will not exceed the nitrogen and phosphorus requirements of the crop, or those detailed in the Nutrient Management Plan. The amount of organic matter applied to land, together with that deposited by livestock, cannot exceed an amount equalling 170 kg per hectare per annum.</p> <p>Spreading is not undertaken on lands delineated by Source Protection Areas where areas of extreme vulnerability classification are determined within the Outer Source Protection Area. Areas of high, moderate, or low vulnerability within the Outer Source Protection are subject to organic loading rates, as specified in the GSI Response Matrix for landspreading of organic waste.</p> <p>Spreading of organic fertiliser is not acceptable on lands within the area delineated by the Inner Source Protection Area as stated in the GSI Response Matrix for Landspreading of Organic Waste.</p> <p>Organic matter cannot be applied to the following:</p> <ul style="list-style-type: none"> <li>• waterlogged land</li> <li>• land which is flooded or likely to flood</li> </ul>
c.	<p>Avoid manure spreading when the risk of run-off can be significant. In particular, manure is not applied when:</p> <p>1. the field is flooded, frozen or snow-covered;</p> <p>2. soil conditions (e.g. water saturation or compaction) in combination with the slope of the field and/or field drainage are such that the risk of run-off or drainage is high;</p> <p>3. run-off can be anticipated according to expected rainfall events.</p>		
d.	<p>Adapt the manure landspreading rate taking into account the nitrogen and phosphorus content of the manure and taking into account the characteristics of the soil (e.g. nutrient content), the seasonal crop requirements and weather or field conditions that could cause run-off.</p>		
e.	<p>Synchronize manure landspreading with the nutrient demand of crops.</p>		
f.	<p>Check the spreading fields at regular intervals to identify any sign of run-off and properly respond when necessary.</p>		
g.	<p>Ensure adequate access to the manure store and that loading of manure can be done effectively without spillage.</p>		
h.	<p>Check that machinery for manure landspreading is in good working order and set at the proper application rate.</p>		

			<ul style="list-style-type: none"> <li>• frozen or snow covered land</li> <li>• steeply sloping ground</li> <li>• exposed bedrock</li> <li>• fields pipe or mole drained where the soil is cracked down to the drains or backfill</li> <li>• on fields that have been pipe or mole drained in the previous 12 months</li> <li>• on fields that have been sub-soiled over a pipe or mole drainage system in the previous 12 months</li> <li>• free-draining areas where the water-table is within 1m of the surface at the time of application</li> </ul> <p>No organic waste shall be spread within the following buffer zones:</p> <ul style="list-style-type: none"> <li>• Within 200m of an extraction point of water supply providing 100m<sup>3</sup> or more of water per day, or serving 500 or more people</li> <li>• Within 100m of an extraction point of water supply providing 10m<sup>3</sup> or more of water per day, or serving 50 or more people</li> <li>• Within 25m of an extraction point of any other water supply for human consumption and all wells</li> <li>• Within 20m of a lake shoreline or main river channel</li> <li>• Within 10m of any watercourse</li> <li>• Within 200m of any sensitive building</li> <li>• Within 100m of a dwelling house</li> <li>• Within 50m of any public building or amenity areas</li> <li>• Within 10m of any public road</li> </ul>
<p>BAT 21. In order to reduce ammonia emissions to air from slurry landspreading, BAT is to use one or a combination of the techniques given below.</p>			
a.	Slurry dilution, followed by techniques such as low-pressure water irrigation system.	Not applicable	Not applicable due to the minimal amount of wash water

b.	Band spreader, by applying one of the following techniques: 1. Trailing hose; 2. Trailing shoe.	Not applicable	Not applicable due to the minimal amount of wash water
c	Shallow injector (open slot).	Not applicable	Not applicable due to the minimal amount of wash water
d.	Deep injector (closed slot).	Not applicable	Not applicable due to the minimal amount of wash water
e.	Slurry acidification.	Not applicable	Not applicable due to the minimal amount of wash water

BAT 22. In order to reduce ammonia emissions to air from manure landspreading, BAT is to incorporate the manure into the soil as soon as possible.

Description	Incorporation of manure spread on the soil surface is done by either ploughing or using other cultivation equipment, such as tines or disc harrows, depending on the soil type and conditions. Manure is completely mixed with soil or buried. Solid manure spreading is carried out by a suitable spreader (e.g. rota-spreader, rear discharge spreader, dual-purpose spreader). Slurry landspreading is carried out according to BAT 21.		
Applicability	Not applicable due to the minimal amount of wash water		

#### 1.14. Emissions from the whole production process

BAT 23. In order to reduce ammonia emissions from the whole production process for the rearing of pigs (including sows) or poultry, BAT is to estimate or calculate the reduction of ammonia emissions from the whole production process using the BAT implemented on the farm.

Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
Not applicable due to the minimal amount of wash water		

#### 1.15. Monitoring of emissions and process parameters

BAT 24. BAT is to monitor the total nitrogen and total phosphorus excreted in manure using one of the following techniques with at least the frequency given below.

Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	Applicable	Low protein diets are being utilised on site.
b.		
Calculation by using a mass balance of nitrogen and phosphorus based on the feed intake, crude protein content of the diet, total phosphorus and animal performance.		
Estimation by using manure analysis for total nitrogen and total phosphorus content.		

BAT 25. BAT is to monitor ammonia emissions to air using one of the following techniques with at least the frequency given below.			
a.	Estimation by using a mass balance based on the excretion and the total (or total ammoniacal) nitrogen present at each manure management stage.	Not applicable	Not applicable due to the minimal amount of wash water and litter produced.
b.	Calculation by measuring the ammonia concentration and the ventilation rate using ISO, national or international standard methods or other methods ensuring data of an equivalent scientific quality.		
c.	Estimation by using emission factors.		
BAT 26 is only applicable to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated.			
BAT 27. BAT is to monitor dust emissions from each animal house using one of the following techniques with at least the frequency given below.			
a.	Calculation by measuring the dust concentration and the ventilation rate using EN standard methods or other methods (ISO, national or international) ensuring data of an equivalent scientific quality.	Not applicable	There is no proposed monitoring for dust or odour at the Poultry Unit. If any complaints are received, a follow-up investigation will be initiated and all results made available to the Local Authority and EPA for inspection.
b.	Estimation by using emission factors.		
BAT 28. BAT is to monitor ammonia, dust and/or odour emissions from each animal house equipped with an air cleaning system by using all of the following techniques with at least the frequency given below.			
a.	Verification of the air cleaning system performance by measuring ammonia, odour and/or dust under practical farm conditions and according to a prescribed measurement protocol and using EN standard methods or other methods (ISO, national or international) ensuring data of an equivalent scientific quality.	Not applicable	There is no proposed monitoring for dust or odour at the Poultry Unit. If any complaints are received, a follow-up investigation will be initiated and all results made available to the Local Authority and EPA for inspection.
b.	Control of the effective function of the air cleaning system (e.g. by continuously recording operational parameters or using alarm systems).		

BAT 29. BAT is to monitor the following process parameters at least once every year.			
a.	Water consumption.	Applicable	Michael O' Connor keeps accurate records. All the figures in relation to performance with regard to water usage, energy usage, fuel usage, feed consumption and waste water/litter production are calculated on a yearly basis. Records of growth rates, food conversion efficiency and mortality in each stage of the growth help to ensure that efficiency is maintained.
b.	Electric energy consumption.	Applicable	
c.	Fuel consumption.	Recording using e.g. suitable meters or invoices.	
d.	Number of incoming and outgoing animals, including births and deaths when relevant	Recording using e.g. existing registers.	
e.	Feed consumption.	Recording using e.g. invoices or existing registers.	
f.	Manure generation.	Recording using e.g. existing registers.	

### 3. BAT CONCLUSIONS FOR THE INTENSIVE REARING OF POULTRY

#### 3.1. Ammonia emissions from poultry houses

##### 3.1.1. Ammonia emissions from houses for laying hens, broiler breeders or pullets

**BAT 31. In order to reduce ammonia emissions to air from each house for laying hens, broiler breeders or pullets, BAT is to use one or a combination of the techniques given below.**

	Technique	Applicability Assessment (describe how the technique applies or not to your installation)	State whether it is in place or state schedule for implementation
a.	Manure removal by belts (in case of enriched or unenriched cage systems) with at least: <ul style="list-style-type: none"> <li>— one removal per week with air drying; or</li> <li>— two removals per week without air drying.</li> </ul>	Not applicable	The poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.
b.	In case of non-cage systems:		
	Forced ventilation system and infrequent manure removal (in case of deep litter with a manure pit) only if used in combination with an additional mitigation measure, e.g.: <ul style="list-style-type: none"> <li>— achieving a high dry matter content of the manure;</li> <li>— an air cleaning system.</li> </ul>		
	1. Manure belt or scraper (in case of deep litter with a manure pit).		
	2. Forced air drying of manure via tubes (in case of deep litter with a manure pit)		
	3. Forced air drying of manure using perforated floor (in case of deep litter with a		

	manure pit).		
	4. Manure belts (in case of aviary).		
	5. Forced drying of litter using indoor air (in case of solid floor with deep litter).		
c.	Use of an air cleaning system, such as: 1. Wet acid scrubber; 2. Two-stage or three-stage air cleaning system; 3. Bioscrubber (or biotrickling filter).		

### 3.1.2. Ammonia emissions from houses for broilers

BAT 32. In order to reduce ammonia emissions to air from each house for broilers, BAT is to use one or a combination of the techniques given below.

	<b>Technique</b>	<b>Applicability Assessment (describe how the technique applies or not to your installation)</b>	<b>State whether it is in place or state schedule for implementation</b>
a.	Forced ventilation and a non-leaking drinking system (in case of solid floor with deep litter).	Not applicable	Not applicable
b.	Forced drying system of litter using indoor air (in case of solid floor with deep litter).	Not applicable	Not applicable
c.	Natural ventilation, equipped with a non-leaking drinking system (in case of solid floor with deep litter).	Applicable	Natural ventilation is utilised. Nipple type drinkers are in place.
d.	Litter on manure belt and forced air drying (in case of tiered floor systems).	Not applicable	Not applicable
e.	Heated and cooled littered floor (in case of combideck systems).	Not applicable	Not applicable
f.	Use of an air cleaning system, such as: 1. Wet acid scrubber; 2. Two-stage or three-stage air cleaning system; 3. Bioscrubber (or biotrickling filter).	Not applicable	Not applicable

**MINIMUM SPECIFICATION FOR SCREENING BELTS AND SHELTER BELTS  
FOR FARMYARDS AND FARM BUILDINGS**

The receiving of this specification does not imply approval of a grant application. However, if written approval is issued, then this specification becomes part of the contract between the applicant and the Department of Agriculture, Fisheries and Food.

This is a minimum specification. Where the word “SHALL” is used, then that standard (at least) must be followed in grant-aided buildings. Where a procedure is “RECOMMENDED”, this is advice only on good practice.

Note that all references to other Department Specifications are to the current edition of that specification [available on the Department of Agriculture, Fisheries and Food Website ([www.agriculture.gov.ie](http://www.agriculture.gov.ie)) under Farm buildings]. Similarly, references to Standards are to the current edition of the Irish, British or European Standard, as appropriate.

This specification describes the installation and maintenance of trees to screen or shelter a single farm building, or collection of buildings. **Screening** belts refer to rows or groups of trees planted to hide obtrusive buildings, or to soften their impact, particularly in scenic landscapes. **Shelter** belts may also screen buildings, but have the particular purpose of moderating strong winds around buildings and farmyards.

## **1. Safety**

### ***APPLICANT'S RESPONSIBILITY FOR SAFETY***

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

### ***SAFETY DURING CONSTRUCTION***

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

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



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

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

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

## 2. Design and Layout of Screening Belts

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

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

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

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

## 3. Design and Layout of Shelter Belts

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

- The direction of prevailing winds, and of winds, which are particularly strong because of "funneling" 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.

## General Guide to Tree Species for Irish Farm Conditions

### NATIVE BROADLEAVES

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

### NON-NATIVE BROADLEAVES

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

## CONIFERS

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

## CONIFERS

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



Screening Statement in support of  
Appropriate Assessment

for an

Planning Application to Limerick County  
Council for a proposed Poultry Unit

at

Templeglantine

Co. Limerick

[Doherty Environmental](#)



**Industrial Emissions Licence Application**

**Poultry Unit**

**Templeglantine, Co. Limerick**

Document Stage	Document Version	Prepared by
Final	1	Pat Doherty MSc, MCIEEM

## Table of Contents

<b>1.0</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>2.0</b>	<b>STAGE 1: SCREENING</b>	<b>1</b>
<b>2.1</b>	<b>PROJECT DESCRIPTION</b>	<b>3</b>
2.1.1	FACILITIES	3
2.1.2	DRAINAGE	3
2.1.3	SOILED WATER	3
2.1.4	STORM/CLEAN SURFACE WATER	4
2.1.5	STORAGE TANKS	4
2.1.6	POULTRY LITTER	4
2.1.7	FEED SILO	4
2.1.8	HEATING	4
2.1.9	FEEDING/DRINKING APPARATUS	4
2.1.10	TRAFFIC	4
2.1.11	NOISE & ODOUR	5
2.1.12	FLORA AND FAUNA	5
2.1.13	WASTE MANAGEMENT	5
2.1.14	MONITORING AND REGISTER	5
<b>2.2</b>	<b>CONSTRUCTION &amp; DESIGN MEASURES TO SAFEGUARD THE SURROUNDING ENVIRONMENT</b>	<b>6</b>
2.2.1	CONSTRUCTION PHASE MEASURES	6
<b>3.0</b>	<b>DESCRIPTION OF THE PROJECT SITE SETTING</b>	<b>8</b>
<b>4.0</b>	<b>EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT</b>	<b>8</b>
<b>4.1</b>	<b>OVERVIEW OF EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT SITE</b>	<b>15</b>
4.1.1	STACKS TO MULLAGHAREIRK MOUNTAINS, WEST LIMERICK HILLS AND MOUNT EAGLE SPA	15
4.1.2	LOWER RIVER SHANNON SAC	16
4.1.3	QUALIFYING FEATURES OF INTEREST OF THE LOWER RIVER SHANNON SAC POTENTIALLY OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT	17

<b>4.2</b>	<b>CONSERVATION OBJECTIVES FOR INTEREST FEATURES OF EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT</b>	<b>19</b>
<b><u>5.0</u></b>	<b><u>ASSESSMENT OF THE PROJECTS POTENTIAL TO RESULT IN LIKELY SIGNIFICANT EFFECTS</u></b>	<b><u>19</u></b>
<b><u>6.0</u></b>	<b><u>SCREENING CONCLUSION – FINDING OF NO SIGNIFICANT EFFECTS</u></b>	<b><u>26</u></b>
<b><u>REFERENCES</u></b>		<b><u>27</u></b>

## 1.0 INTRODUCTION

Doherty Environmental Consultants (DEC) Ltd. has been commissioned by NERGE Ltd. to undertake a Habitats Directive Stage 1 Screening Assessment in respect of an Planning for a proposed poultry unit at Michael Noel Patrick O'Connor's Poultry Farm at Templeglantine, Co. Limerick.

This Screening Statement outlines the results of a Habitats Directive Stage 1 Screening Assessment for the proposed poultry unit. This Screening Statement of the proposed project and has been undertaken in order to comply with the requirements of the Habitats Directive Article 6(3) The function of this Screening Statement is to provide information that will facilitate the competent authority in completing a Stage 1 Screening Assessment of the proposed project's potential to result in likely significant effects to the Conservation Objectives of European Sites.

## 2.0 STAGE 1: SCREENING

The function of the Screening exercise is to identify whether or not the proposal will have a likely significant effect on European Sites. In this context "likely" refers to the presence of doubt with regard to the absence of significant effects (ECJ case C-127/02) and "significant" means not trivial or inconsequential but an effect that has the potential to undermine the site's conservation objectives (English Nature, 1999; ECJ case C-127/02 &). In other words any effect that compromises the conservation objectives of a site and interferes with achieving these conservation objectives for the site would constitute a significant effect.

The nature of the likely interactions between the project and the conservation objectives of European Sites will depend upon the sensitivity of these sites and their reasons for designation to potential impacts arising from the project; the current conservation status of the features for which European Sites have been designated; and any likely changes to key environmental indicators (e.g. habitat structure; vegetation community) that underpin the conservation status of European Sites, in combination with other plans and projects.

This Screening exercise has been undertaken with reference to respective National and European guidance documents: *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities* (DEHLG 2010) and *Assessment of Plans and Projects Significantly*

*Affecting Natura 2000 sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats directive 92/43/EEC* and recent European and National case law (e.g. ECJ C-258/11 & High Court case ref 2014-320-JR). The following guidance documents were also of relevance during this Screening Assessment:

- A guide for competent authorities. Environment and Heritage Service, Sept 2002. *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (2010). DEHLG.
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/42/EED*. European Commission (2001).
- *Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats directive 92/43/EEC*. European commission (2000). (To be referred to as MN 2000).
- *Guidance on Article 6(4) of the Habitats Directive 92/43/EEC – Clarification of the Concepts of: Alternative Solutions, Imperative reasons of Overriding Public Interest, Compensatory Measures, Overall coherence, Opinion of the Commission*. European Commission (2007).

The EC (2001) guidelines outline the stages involved in undertaking a Screening exercise of a project that has the potential to have likely significant effects on European Sites. The methodology adopted for this Screening exercise is informed by these guidelines and was undertaken in the following stages:

1. Describe the project and determine whether it is necessary for the conservation management of European Sites;
2. Identify European Sites that could be influenced by the project;
3. Where European Sites are identified as occurring within the sphere of influence of the project identify potential effects arising from the project and screen the potential for such effects to negatively affect European Sites identified under Point 2 above; and

4. Identify other plans or projects that, in combination with the project, have the potential to affect European Sites.

## **2.1 PROJECT DESCRIPTION**

The site of the Poultry Unit is located approximately 9km South West of Newcastle West and 1km from the village of Templeglantine, which is to the North East of the Unit (see Figure 2.1 for location).

An indicative site layout is shown on Figure 2.2 (see Planning Drawing for precise Site Layout). The total area of the site is 1.5 Hectares. The poultry unit as per Planning Ref 13366/12283 is approximately 50m north from the existing 3no poultry houses (74,000 bird's capacity). The new house has a capacity for 34,000 birds; amounting to a total of 108,000 birds.

### **2.1.1 Facilities**

The buildings and its layout will be state of the art for the industry. A thorough review was undertaken of the best available techniques to minimise emissions from the unit and to maximize welfare conditions for animals and staff alike on-site. All facilities on-site are compliant with Best Available Techniques.

### **2.1.2 Drainage**

All storm water from the yard will be diverted via a clean water drainage system to a single storm water monitoring point indicated as SW1 on the Site Layout Plan, which discharges to a small drainage ditch. This monitoring point will be inspected weekly and sampled quarterly for COD at an Independent Laboratory.

### **2.1.3 Soiled Water**

Soiled water arising from the washing down of the accommodation houses is utilised on the applicant's land adjacent to the unit and amounts to approximately 5 vacuum tanks a year. The application of the soiled water is regulated under the EU (Good Agricultural Practice for the Protection of Waters) 2014 S.I. 31 of 2014.

#### **2.1.4 Storm/clean surface water**

All clean surface water collected will be discharged to an adjacent drainage ditch. Roof water is collected via galvanized gutters and downpipes and diverted to this drainage ditch also.

#### **2.1.5 Storage Tanks**

On site there are currently 2 no 37.6m<sup>3</sup> precise underground effluent tanks, which hold all washings from the poultry houses and soiled water from the yards. This tank's construction conforms to the Department of Agriculture, Food and the Marine's specification<sup>[1]</sup> S123 Minimum Specification for Bovine Units and Reinforced Tanks – March 2006.

#### **2.1.6 Poultry Litter**

The poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.

#### **2.1.7 Feed Silo**

Feed silos, approximately 7.6 m high, 3.0 m diameter are installed adjacent to the accommodation houses.

#### **2.1.8 Heating**

Gas heating is installed in all poultry houses.

#### **2.1.9 Feeding/Drinking Apparatus**

An auger style feeding system is installed in each unit which has a low pan for easy access and low flow nipple-type drinkers with a drip cup to reduce spillages to the floor.

#### **2.1.10 Traffic**

The poultry unit is serviced by a local unnamed road, 1km from the village of Templeglantine. The Unit's entrance joins this road on a straight stretch giving maximum visibility for traffic. The increase in the use of raw materials associated with the increase in poultry growing operation

will not lead to a significant increase in traffic movements. Therefore, there will be no impact on the existing road network.

#### ***2.1.11 Noise & Odour***

This Poultry operation has no significant effect on noise or odour. To date there has been no direct noise or odour related complaints made to the existing Poultry Unit.

#### ***2.1.12 Flora and Fauna***

#### ***2.1.13 Waste Management***

Michael Noel O' Connor has existing procedures in place with regards to waste management, in accordance with Part III of the Waste Management Acts 1996, as amended. These are outlined in the Waste Management Plan prepared by NRGE ltd.

#### ***2.1.14 Monitoring and Register***

Proposals for monitoring storm water emissions at the site and noise monitoring locations carried out during the baseline survey are set down in the Environmental Report. There are no proposed monitoring measures for dust or odour at the unit. However, if any complaints are received, a follow up investigation will be initiated.

An Annual Environmental Report will be submitted annually to the Environmental Protection Agency, in accordance with the requirements of an Industrial Emissions Licence.



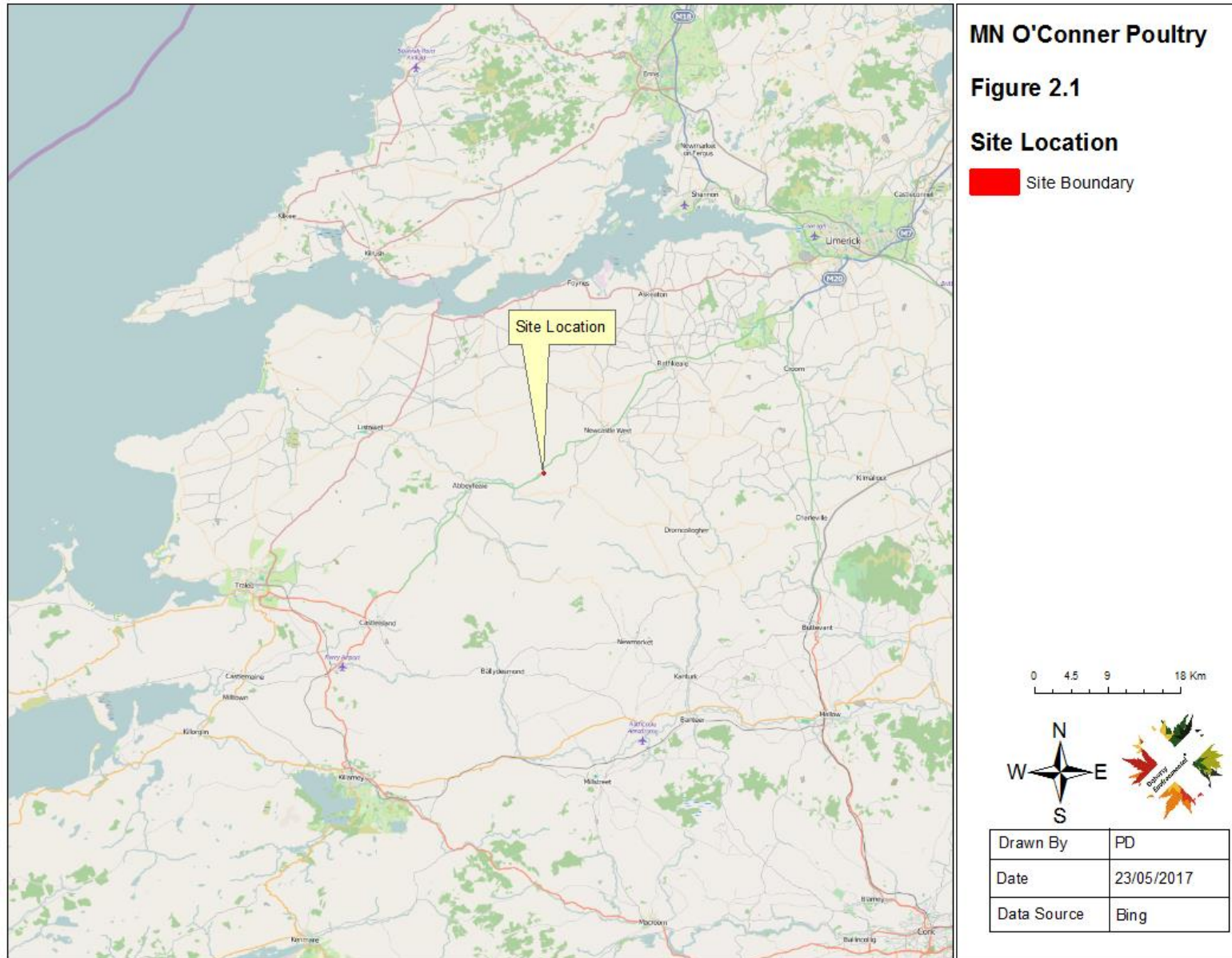
## **2.2 CONSTRUCTION & DESIGN MEASURES TO SAFEGUARD THE SURROUNDING ENVIRONMENT**

### **2.2.1 Construction Phase Measures**

Disturbance to protected species and their habitat will be provided to all construction staff.

The following best practice guidelines will be adhered to throughout the project:

- CIRIA (Construction Industry Research and Information Association) Guidance Documents
  - Control of water pollution from construction sites (C532)
  - Control of water pollution from linear construction projects: Technical Guidance (C648)
  - Control of water pollution from linear construction projects: Site Guide (C649)
  - Environmental Good Practice on Site (C692)
- NRA Guidance Documents
  - Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes
  - Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads
  - Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes.



### **3.0 DESCRIPTION OF THE PROJECT SITE SETTING**

The proposed project site lies immediately to the north of an existing poultry unit. The project site and the existing poultry unit are located in an area which is relatively flat with existing poultry units well screened by hedgerows from the N21.

Rural, agricultural land with little topographic relief occurs on-site. Much of the landscape surrounding the site is flat where levels are commonly 127 to 136m. Throughout the area the land is farmed with fields enclosed with a varied mix of hawthorn and blackthorn hedges, stonewalls and fences. Improved agricultural grassland dominates the surrounding land cover.

Improved agricultural grassland dominates the development footprint with surrounding hedgerows and tree lines.

### **4.0 EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT**

Current guidance on undertaking EU Habitats Directive Article 6 Assessments advises that all European Sites occurring within a 15km radius of a project site should first be included within a Screening Assessment (Scott Wilson et al., 2006; DEHLG, 2010). Three European Sites, comprising of two SACs and one SPA occur within the surrounding 15km radius of the site (see Figure 4.1 & 4.2; Table 4.1 for list of European Sites).

The next step of the Screening Assessment is to identify which, if any of these sites, occur within the sphere of influence of the project.

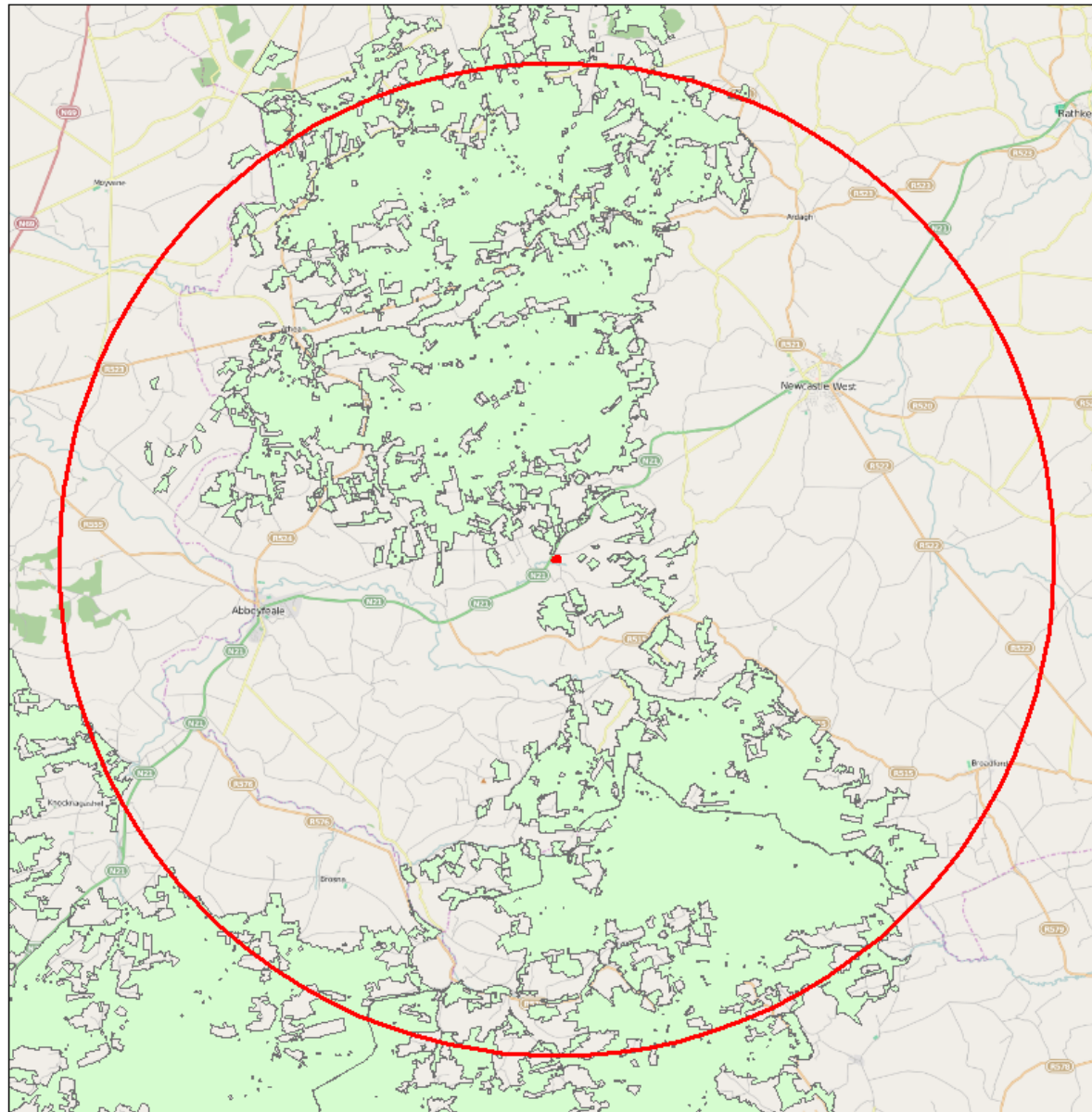
A source-pathway-receptor model has been used to establish which European Sites could occur within the sphere of influence of potential indirect impacts. Under such a model the project, as described above, represents the source.

Potential impact pathways are restricted to hydrological pathways as this represents the principal emission generated by activities at the project site.

The receptors represent European Sites and their associated qualifying features of interest.

European Sites and their associated qualifying features are likely to occur in the sphere of influence of the project only where hydrological pathways establish a link between the project and the European Site or where the project site is likely to play an important role in supporting populations of mobile species that are listed as special conservation interests/qualifying species for surrounding European Sites. Table 4.1 provides a determination as to whether each European Site within a 15km buffer distance of the project site occur within the sphere of influence of the project. This determination has been undertaken in line with the following assessment questions:

- Is there a hydrological pathway linking the Project site to European Sites and does this pathway have the potential to function as an impact pathway?
- Are qualifying habitats of these European Sites at risk of experiencing impacts as a result of the project?
- Does the project site have the potential to interact with or support Annex II qualifying species/special conservation interest species of these European Sites?

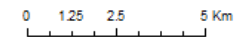


### MN O'Conner Poultry

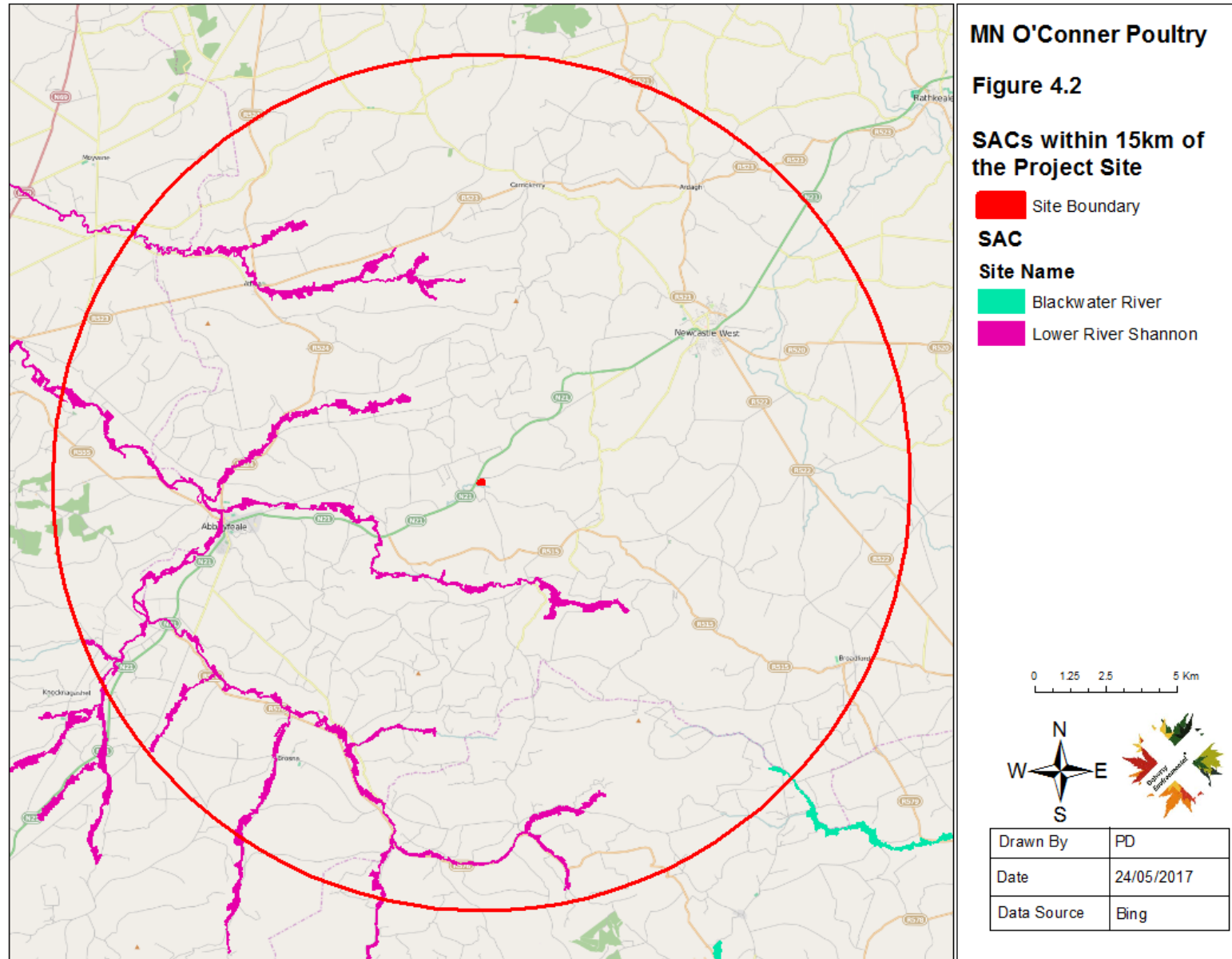
Figure 4.1

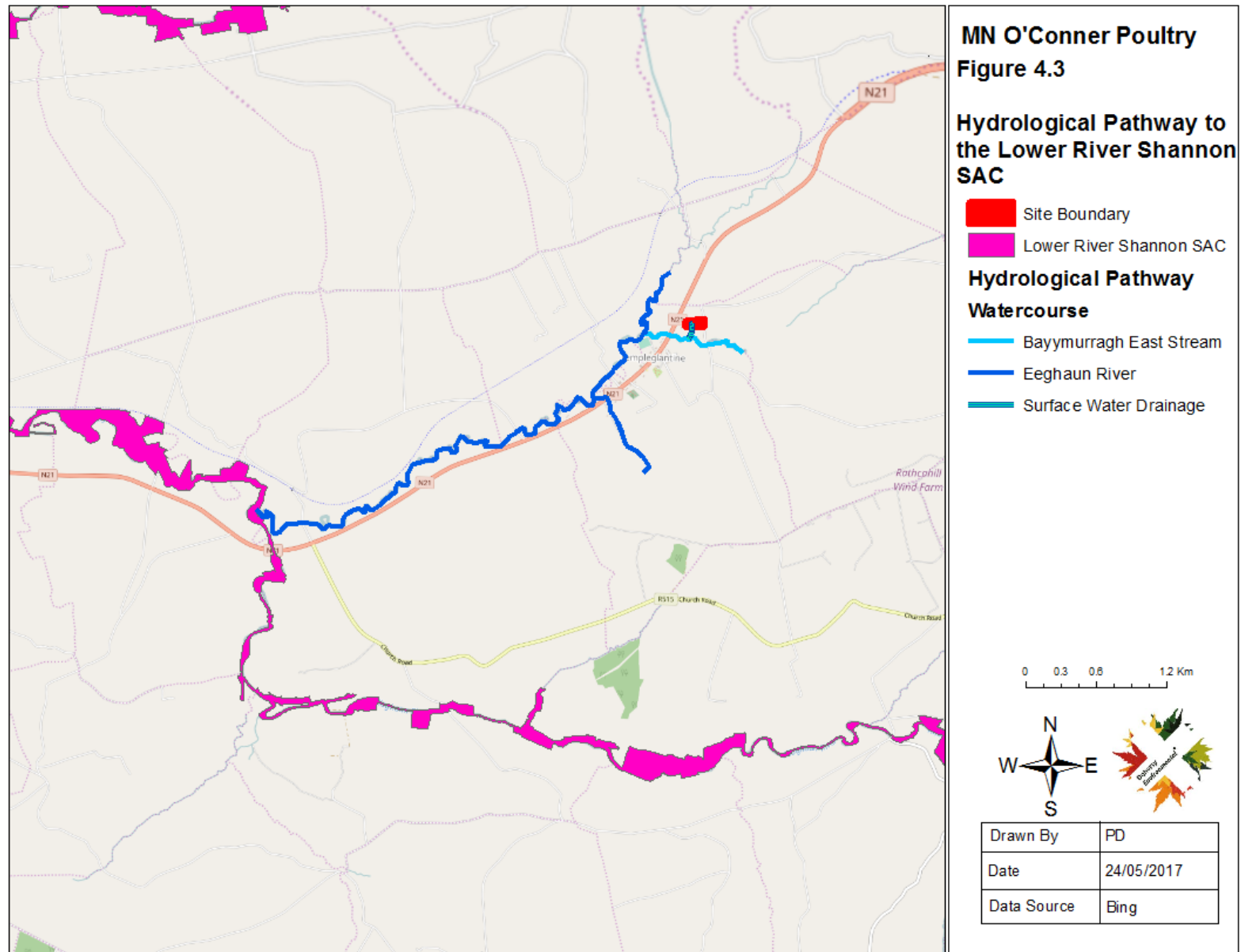
#### SPAs within 15km of the Project Site

- Site Boundary
- Stacks to Mullaghareirk Mt.



Drawn By	PD
Date	24/05/2017
Data Source	Bing





**Table 4.1: Identification of European Sites within the sphere of influence of the Project**

European Sites	Distance from Project Site	Is there a Hydrological Pathway and does it have the potential to function as an Impact Pathway	Do qualifying habitats of the European Site occur within the sphere of influence of the Project	Do mobile qualifying species of the European Site occur within the sphere of influence of the Project	Does the European Site or features of the European Site occur within the Projects Sphere of Influence?
Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA	130m to the north	No. The project site is located within the River Feale catchment. Upper order watercourses of the Feale catchment to which surface waters from the site drain and the River Feale itself, are not located within this SPA.	Terrestrial habitats designated as part of the SPA occur in close proximity to the project site. The nearest parcel of the SPA to the project site is approximately 130m to the northwest, or approximately 175m to the northwest of the nearest point of the proposed poultry unit. The land parcels of the SPA occurring in close proximity to the project site are generally characterised by unimproved or semi-improved rough and marshy grassland habitats. Further examination of the projects potential to influence parcels of terrestrial habitat of the SPA occurring in the	The special conservation interest bird species of this SPA is hen harrier. Should emissions from the project site have the potential to effect designated parcels of foraging habitat of the SPA then there will be potential for associated effects to these species. Further examination of the projects potential to result in emissions that could result in negsative effects to terrestrial foraging habitats designated as part of the SPA is required.	Yes. Terrestrial habitats of the SPA occur in close proximity of the project site and further examination of the porject is required to determine whether it has the potential to pose likely significant effects to this SPA.



			vicinity of the project site is required as part of this Screening Assessment.		
Lower River Shannon SAC	3.5km	Yes. The project site is located within the Feale River catchment. The River Feale, downstream of the project site, is designated as part of this SAC. Surface water generated on the project site will naturally flow to the Ballymurragh East Stream (see Figure 4.3 for location), which is an upstream feeder stream of the River Feale.	Freshwater lotic habitats of the SAC occurring along the River Feale have the potential to occur within the sphere of influence of the project.	Freshwater lotic species of the SAC have the potential to occur within the sphere of influence of the project.	Yes. The project site is hydrologically linked to this SAC and qualifying freshwater lotic habitats and species have the potential to occur within the sphere of influence of the project.
Blackwater River SAC	14.3km	No. This SAC is located within a separate surface water catchment to the project site.	No. All qualifying habitats of this SAC are located at very remote distances from the project site.	No. All qualifying species of this SAC are located at very remote distances from the project site.	No. This SAC does not occur within the sphere of influence of the project site.

Table 4.1 above shows that of the three European Sites occurring within a 15km radius of the project site, the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower River Shannon SAC have been identified as occurring within the sphere of influence of the project. The Blackwater Valley SAC has not been identified as occurring within the sphere of influence of the project site and is as such screened out at this stage from further assessment.

#### **4.1 OVERVIEW OF EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT SITE**

##### **4.1.1 *Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA***

The Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA is a very large site centred on the borders between the counties of Cork, Kerry and Limerick. The site is skirted by the towns of Newcastle West, Ballydesmond, Castleisland, Tralee and Abbeyfeale. The mountain peaks included in the site are not notably high or indeed pronounced, the highest being at Knockfeha (451 m). Other mountains included are Mount Eagle, Knockanefune, Garraunbaun, Taur, Rock Hill, Knockacummer, Mullaghmuish, Knight's Mt, Ballincollig Hill, Beennageeha Mt, Sugar Hill, Knockanimpuba and Knockathea, amongst others. Many rivers rise within the site, notably the Blackwater, Owentaraglin, Owenkeal, Glenlara, Feale, Clydagh, Allaghaun, Allow, Oolagh, Galey and Smerlagh.

The site consists of a variety of upland habitats, though almost half is afforested. The coniferous forests include first and second rotation plantations, with both pre-thicket and post-thicket stands present. Substantial areas of clear-fell are also present at any one time. The principal tree species present are Sitka Spruce (*Picea sitchensis*) and Lodgepole Pine (*Pinus contorta*). A substantial part (28%) of the site is unplanted blanket bog and heath, with both wet and dry heath present. The vegetation of these habitats is characterised by such species as Ling Heather (*Calluna vulgaris*), Bilberry (*Vaccinium myrtillus*), Common Cottongrass (*Eriophorum angustifolium*), Hare's-tail Cottongrass (*Eriophorum vaginatum*), Deergrass (*Scirpus cespitosus*) and Purple Moor-grass (*Molinia caerulea*). The remainder of the site is mostly rough grassland that is used for hill farming. This varies in composition and includes some wet areas with rushes (*Juncus* spp.) and some areas subject to scrub encroachment.

This SPA is a stronghold for Hen Harrier and supports the largest concentration of the species in the country. A survey in 2005 recorded 45 pairs, which represents over 20% of the all-Ireland total. A similar number of pairs had been recorded in the 1998-2000 period. The mix of forestry and open areas provides optimum habitat conditions for this rare bird, which is listed on Annex I of the E.U. Birds Directive.

No nest locations are known or likely to occur in the vicinity of the project site. Hen harrier nest is remote locations away from human habitation. The early stages of new and second-rotation conifer plantations are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath. Hen Harriers will forage up to c. 5 km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. Parcels of rough and marshy grassland included within the SPA surrounding the project site may be used as foraging habitat by hen harrier.

#### **4.1.2 Lower River Shannon SAC**

This very large SAC stretches along the Shannon valley from Killaloe to Loop Head/Kerry Head, a distance of some 120km. This site supports a range of habitats and species and includes the lower freshwater stretches of a number of major tributaries such as the Mulkear and Feale catchments. This large site supports up to fifteen habitats listed on Annex I of the EU Habitats Directive and seven species listed on Annex II of the Directive. The complete NPWS site synopsis characterising this European site is reproduced in Appendix 1. The site is a candidate SAC selected for lagoons and alluvial wet woodlands, both habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for floating river vegetation, *Molinia* meadows, estuaries, tidal mudflats, Atlantic salt meadows, Mediterranean salt meadows, *Salicornia* mudflats, sand banks, perennial vegetation of stony banks, sea cliffs, reefs and large shallow inlets and bays all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive - Bottle-nosed Dolphin, Sea Lamprey,

River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Atlantic Salmon and Otter.

**4.1.3 Qualifying features of interest of the Lower River Shannon SAC potentially occurring within the sphere of influence of the Project**

The qualifying features of interest of the Lower River Shannon SAC are listed in Table 4.1 and an assessment is provided for the features likely to occur within the sphere of influence of the project.

**Table 4.2: Identification of Qualifying Features Interest occurring within the Sphere of Influence of the Project**

European Sites	Qualifying Interests	Does the qualifying feature of interest/special conservation interest occur within the Sphere of Influence of the Project
2165 – Lower River Shannon	Estuaries	No. The nearest example of this habitat is located at remote distances downstream. The distance between this project site and this feature will be sufficient to ensure that it is located outside the sphere of influence of the project.
	Mudflats and sandflats not covered by seawater at low tide	No, see reasons for estuaries above.
	Coastal Lagoons	No, see reasons for estuaries above.
	Vegetated sea cliffs of the Atlantic and Baltic coasts	No, see reasons for estuaries above.
	Salicornia and other annuals colonizing mud and sand	No, see reasons for estuaries above.
	Atlantic salt meadows (Glaucopuccinellietalia maritimae)	No, see reasons for estuaries above.
	Mediterranean salt meadows (Juncetalia maritimi)	No, see reasons for estuaries above.
	Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation (to be referred to as	Yes. Examples of this qualifying habitats are likely to be supported by the River Feale.

“floating river vegetation”	
Sandbanks which are slightly covered by sea water all the time	No, see reasons for estuaries above.
Large shallow inlets and bays	No, see reasons for estuaries above.
Reefs	No, see reasons for estuaries above.
Perennial vegetation of stony banks;	No, see reasons for estuaries above.
Spartina swards (Spartinion maritimae);	No, see reasons for estuaries above.
Molinia meadows on calcareous, peaty or clay-silt-laden soils (Molinion caerulecae);	No, see reasons for estuaries above.
Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)*;	No. No example of this riparian habitat occurs downstream of the project site.
River Lamprey;	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
Brook Lamprey;	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
Sea Lamprey	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
Atlantic Salmon	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
Bottle-nosed Dolphin	No. This species occurs at the outer and middle Shannon Estuary.
Freshwater Pearl Mussel	No. This feature does not occur within the sphere of influence of the project.
Otter	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.

From Table 4.1 above the qualifying features of interest of the SAC that occur within the sphere of influence of the project are:

- Floating river vegetation

- Atlantic salmon;
- Freshwater pearl mussels
- Brook lamprey;
- River lamprey;
- Sea lamprey; and
- Otter.

These features represent the key features/species occurring within the sphere of influence of the project.

#### **4.2 CONSERVATION OBJECTIVES FOR INTEREST FEATURES OF EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT**

The conservation objectives for the species occurring within the sphere of influence of the project is to maintain these habitats and species at favourable conservation status. The favourable conservation status of these habitats and species is achieved when:

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

#### **5.0 ASSESSMENT OF THE PROJECTS POTENTIAL TO RESULT IN LIKELY SIGNIFICANT EFFECTS**

*Table 7.1* provides a Screening Assessment in line with EU Guidance (2001) Assessment Criteria used to examine the potential of the project to adversely impact upon European Sites. These assessment criteria are used to establish whether the project has the potential to result in likely significant effects to the Stacks to Mullaghareirk Mountains, West Limerick Hills and

Mount Eagle SPA and the Lower River Shannon SAC and the relevant qualifying features of interest of these European Sites occurring within the sphere of influence of the project.

**Table 5.1: Screening for likely significant effects**

<b>Assessment Criteria</b>	
<i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) to the selected interest features of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower River Shannon SAC occurring within the sphere of influence of the Project</i>	
Size and Scale	The project is considered to be small in size and scale.
Land-take	The project will not result in any land take from a European Sites.
Distance from European sites or key features of the site	The project site and the proposed poultry unit are located approximately 130m and 175m respectively from the nearest parcel of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA. It is located approximately 8km upstream from the nearest point of the Lower River Shannon SAC.
Resource requirements	No resources associated with these European Sites will be required as part of the project.
Emissions	<b>Surface Water Emissions</b>  All surface water runoff from roofs and clean yard areas will be directed to a surface water drainage network that discharges to a drainage ditch to the south

of the project site. The drainage ditch in turn discharges to the Ballymurragh East Stream, which is an upper feeder stream of the River Feale. AS such there is a hydrological pathway between the surface water runoff generated on site and the Lower River Shannon SAC.

However only surface water runoff generated from clean areas of the project site i.e. roofs, paved areas not trafficked by livestock and permeable surfaces such as surrounding grassland will be discharged to the surface water drainage network and on to the River Feale catchment. This runoff will not be contaminated with any soiled or wastewater associated with the proposed poultry unit and ancillary operations and as such will not have the potential to undermine water quality within the River Feale catchment. AS such it is not anticipated to have the potential to result in likely significant effects to the interest features of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower River Shannon SAC occurring within the sphere of influence of the project.

### **Soiled & Wastewater Emissions**

All soiled and waste-water generated on site by the proposed poultry unit will be discharged to two underground storage tanks. Both storage tanks will be bunded and constructed to conform with storage tank specifications outlined in the Department of Agriculture, Food and the Marine's specification<sup>[1]</sup>S123 Minimum Specification for Bovine Units and Reinforced Tanks – March 2006.

Soiled water will be land spread on surrounding land in accordance with regulations for land spreading outlined under the EU (Good Agricultural Practice for the Protection of Waters) 2014. Ireland's Nitrates Action Plan (NAP) aims to address the potential for degradation to grassland and particularly waterbodies derived from excessive nutrient loading to agricultural lands. The NAP is currently in its third round having been updated in early 2014 through the establishment of the Good Agricultural Practices for Protection of Water Regulations 2014 (S.I. No. 31 of 2014). These regulations outline a range of requirements to prevent water pollution arising as a result of the spread of



approved quantities of organic nutrient on agricultural land. These measures include the establishment of buffer distances between areas receiving nutrient application and surface water bodies. A buffer distance of 10m is required between any surface watercourse and an areas where organic nutrient is to be applied where the slope towards the watercourse exceeds 10%. Where slopes are less than 10% a buffer distance of 5m between a surface watercourse and areas where organic nutrients are applied is required. Further requirements place restrictions on the manner of fertiliser application. For instance fertiliser is restricted from being applied to land that is:

- waterlogged;
- flooded or likely to flood;
- snow-cover or frozen;
- where a heavy rain forecast is predicted within 48 hours of proposed land spreading; or
- where the ground slopes steeply and taking into account factors such as proximity to waters, soil condition, ground cover and rainfall there is a significant risk of causing water pollution.

In addition these regulations require that a Nutrient Management Plan (NMP) be prepared for all farm holdings. A NMP has been prepared for the applicant's farm holding with the aim of avoiding the application of excessive nutrients to grasslands and potential nutrient runoff to surrounding watercourses. The implementation of the applicants NMP will be assured under the annual reporting requirements of the Good Agricultural Practices Regulations. The farm NMP and auditing of nutrient quantities spread on land and regular inspections on farm land will ensure that the spreading of excessive nutrients, derived from the soiled and wastewater arising from the poultry unit, on farm land is avoided.

The range of measures outlined above aim to ensure that the land spreading of soiled and wastewater generated at the poultry unit do not have the potential to

	<p>result in likely significant effects to surrounding water quality. The avoidance of adverse effects to surface water quality surrounding the project site will ensure that such affects are avoided further downstream within the Lower River Shannon SAC.</p> <p><b>Aerial Emissions</b></p> <p>The project site is located within close proximity to parcels of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA. As such the potential for the proposed poultry unit to generate emissions to air have been examined. The emissions to air that have been examined are restricted to gaseous phase nutrients, in the form of ammonia and nitrogen. SCAIL modelling of the potential nutrient emissions generated by the project has been completed by NRG Ltd. The results of this model indicate that the project will not have the potential to result in any nutrient exceedances within the surrounding Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA or further afield.</p> <p><b>Noise Emissions</b></p> <p>The project is not predicted to have the potential to result in changes to the baseline noise environment.</p>
Excavation requirements	Any excavations for the project will be undertaken within the project site at a remote distance from surrounding European Sites.
Transportation requirements	The project will not result in changes to transport levels in the vicinity of any European Sites.
Duration of construction, operation etc.	It is estimated that the construction phase will be completed over a 3-month period.

In-Combination Effects	The project represents an extension to an existing poultry farm operation. The potential for the current project to combine with the existing poultry operation to result in nutrient emissions to air has been modeled as part of the SCAIL modeling completed by NRG Ltd. The results of the cumulative modeling indicate that the proposed project and the existing poultry operations will not have the potential to combine to result in excessive nutrient deposition in surrounding European Sites.
<b>Describe any likely changes to the European Sites arising as a result of:</b>	
Reduction of habitat area	The project will not result in a reduction in the area of floating river vegetation potentially supported by the River Feale.
Disturbance of key species	The project will not have the potential to result in significant disturbance effects to the key species of the Lower River Shannon SAC or hen harrier of the SPA occurring within the sphere of influence of the project. This is due to the fact that the project is not predicted to have the potential to result in adverse effects to surrounding surface water quality or have the potential to generate other stimuli, such as noise, that could result in disturbance to hen harrier.
Habitat species fragmentation	The project will not result in any habitat or species fragmentation.

<p>Reduction in species density</p>	<p>For reasons outlined above (see Emissions and Disturbance to key species above) the project will not have the potential to result in a reduction in species density at the project site.</p>
<p>Changes in key indicators of conservation status</p>	<p>The key indicators in the conservation status of qualifying features of interest occurring within the sphere of influence of the project are those specific attributes and targets outlined for each of these features in the detailed Conservation Objectives for the Lower River Shannon SAC (NPWS, 2012</p> <p>For reasons outlined above it is considered that there will be no potential impact pathway linking the project to this SAC and that it will not have the potential to undermine the attributes and associated targets outlined in the detailed Conservation Objectives (NPWS, 2012) for each of these features.</p> <p>These key indicators underpinning the generic Conservation Objectives for the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA are the population size, distribution and range of hen harrier within the SPA. For reasons outlined above the project will not have the potential to undermine these key indicators.</p>
<p><b>Describe any likely impacts on the European Site as a whole in terms of:</b></p>	
<p>Interference with key relationships that define the structure and function of the site</p>	<p>In light of the assessment of the project's potential to influence the key indicators of conservation status of the qualifying feature of interest of the occurring within the sphere of influence of the project, it is concluded that the project will not have the potential to result in any changes to the key relationships that define the structure or function of these European Sites.</p>

**Describe from the above the elements of the project or plan or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.**

Based upon the above assessment it has been concluded that the proposed poultry unit at Templeglantine does not have the potential to result in likely significant effects to the conservation objectives of the Lower River Shannon SAC or the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and will not influence the conservation status of the qualifying features of interest for which this European Site have been designated.

## **6.0 SCREENING CONCLUSION – FINDING OF NO SIGNIFICANT EFFECTS**

The proposed poultry unit at Templeglantine has been screened for its potential to result in likely significant effects to the conservation objectives and integrity of surrounding European Sites.

Two European Site, the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower River Shannon SAC, were identified as occurring within the sphere of influence of the project.

The features of this European Sites that occur within the sphere of influence of the project are Floating river vegetation; Hen Harrier; Freshwater pearl mussels; Sea Lamprey; River Lamprey; Brook Lamprey; Otter; and Salmon.

The Screening identified the project as occurring within the Feale River catchment and as such within the catchment of the Lower River Shannon SAC. The potential for the project to result in hydrological emissions to the River Feale was examined and it has been concluded that the project does not have the potential to undermine the water quality of the Feale River Catchment.

The potential for the project to generate nutrient emissions to air, alone and in combination with the existing poultry farm to the south of the project site has also be examined through the completion of a SCAIL model. The results of the SCAIL modelling has indicated that the project

along or in combination with the existing poultry operation will not have the potential to result in any nutrient exceedances within surrounding European Sites.

In light of the above assessment this Screening for Appropriate Assessment has resulted in a finding that there is no potential for the proposed poultry unit at Templeglantine to result in likely significant effects to the Conservation Objectives or integrity of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA or the Lower River Shannon SAC.

As such this Screening Statement has resulted in a Finding of No Significant Effects and a Stage 2 Appropriate Assessment is not required.

## **REFERENCES**

Department of the Environment Heritage and Local Government (DEHLG) (2008) Circular letter SEA 1/08 & NPWS 1/08.

Department of the Environment Heritage and Local Government (DEHLG) (2010). Appropriate Assessment of Plans and Projects. Guidance for Local Authorities.

English Nature (1999). *Habitats regulations guidance note no. 3 (HRGN No. 3). Determination of Likely Significant Effect under The Conservation (Natural Habitats &c) Regulations 1994.*

European Commission (2000). *Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC.* Luxembourg.

European Commission (2001). *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.* Luxembourg.

European Commission (1992). EU Habitats Directive.

NPWS (2012) Conservation Objectives: Lower River Shannon SAC 002165. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.





National Waste Collection Permit Office

Offaly County Council  
Aras an Chontae  
Charleville Road  
Tullamore  
Co Offaly  
Telephone. 057 9357428  
Email. [contactus@nwcpo.ie](mailto:contactus@nwcpo.ie)

## WASTE COLLECTION PERMIT

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

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

**Applicant Name:** **Ward Waste Products Ltd.** (herein called the permit holder)

**Permit Number:** NWCPO-09-05619-02

**Address:** Knocknadiha Tournafulla Co. Limerick

**Valid From:** 12/12/14

**Valid to and Expires on:** 11/12/19

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

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

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

Signed:   
Administrative Officer

Date: 12/12/14





**Mooresfort  
Lattin  
Co. Tipperary  
Tel 062 55385  
Fax 062 55483  
E-mail [info@nrge.ie](mailto:info@nrge.ie)**



**CONSTRUCTION MANAGEMENT PLAN  
FOR PATRICK O CONNOR  
RATHCAHILL TEMPLEGLANTINE CO LIMERICK  
NOVEMBER 2018**



<b>Table of Contents</b>	<b>1</b>
<b>1.0 Introduction</b>	<b>3</b>
<b>1.1 Introduction</b>	<b>3</b>
<b>1.2 Description of the Development</b>	<b>4</b>
<b>1.3 Environmental Policy</b>	<b>5</b>
<b>1.4 Project Organisational Structure</b>	<b>6</b>
<b>1.5 Key Contacts</b>	<b>8</b>
<b>2. Environmental Management System</b>	<b>9</b>
<b>2.1 Normative References</b>	<b>9</b>
<b>2.2 Terms &amp; Conditions</b>	<b>10</b>
<b>2.3 Objectives of NRG's EMS</b>	<b>10</b>
<b>3. Waste Management</b>	<b>11</b>
<b>3.1 Introduction</b>	<b>11</b>
<b>3.2 Waste Classification</b>	<b>11</b>
<b>3.3 Fuels</b>	<b>11</b>
<b>3.4 Concrete waste from demolition of existing Superstructure</b>	<b>11</b>
<b>3.5 Emergency Procedures</b>	<b>11</b>
<b>3.6 Waste Management Control</b>	<b>12</b>
<b>3.7 Hazardous Materials Handling &amp; Storage</b>	<b>12</b>
<b>3.8 Odour</b>	<b>13</b>
<b>3.9 Noise</b>	<b>13</b>
<b>3.10 Dust</b>	<b>13</b>
<b>3.11 Traffic</b>	<b>14</b>
<b>3.12 Road Maintenance</b>	<b>14</b>
<b>3.13 Litter</b>	<b>14</b>
<b>4. Operational Control</b>	<b>15</b>
<b>4.1 Noise Control</b>	<b>15</b>
<b>4.2 Air Pollution &amp; Dust</b>	<b>15</b>
<b>4.3 Waste Management Control</b>	<b>16</b>
<b>4.4 Hazardous Materials Handling &amp; Storage</b>	<b>16</b>

<b>5. Auditing</b>	<b>17</b>
<b>5.1 Environmental Audits</b>	<b>17</b>
<b>5.2 Environmental NCR</b>	<b>19</b>
<b>5.3 Environmental Incidents</b>	<b>21</b>
<b>6. Aquatic Ecology</b>	<b>21</b>
<b>7. Non Native Species</b>	<b>22</b>
<b>8. Protection of Bats</b>	<b>22</b>
<b>9 Management Plan Review</b>	<b>22</b>

## 1.1 Introduction

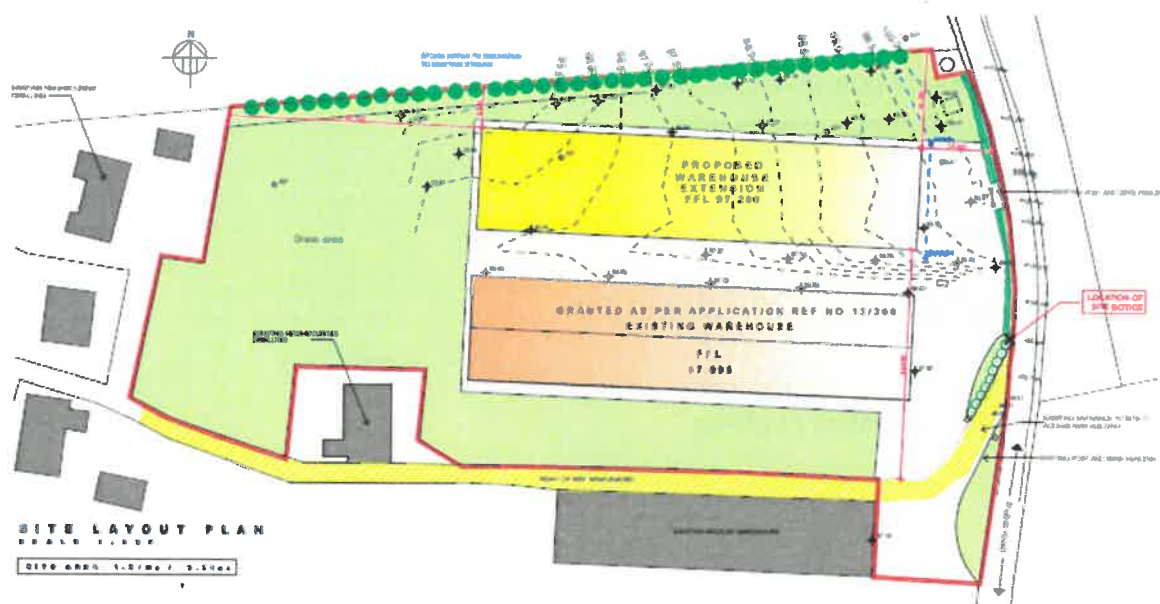
The proposed development involves a proposed poultry unit at Michael Noel Patrick O'Connor's Poultry Farm at Templeglantine, Co. Limerick

The site of the Poultry Unit is located approximately 9km South West of Newcastle West and 1km from the village of Templeglantine, which is to the North East of the Unit. The proposed project site lies immediately to the north of an existing poultry unit. The project site and the existing poultry unit are located in an area which is relatively flat with existing poultry units well screened by hedgerows from the N21.

Rural, agricultural land with little topographic relief occurs on-site. Much of the landscape surrounding the site is flat where levels are commonly 127 to 136m. Throughout the area the land is farmed with fields enclosed with a varied mix of hawthorn and blackthorn hedges, stonewalls and fences. Improved agricultural grassland dominates the surrounding land cover.

(see Figure 2.1 for location.

An indicative site layout is shown on Figure 2.2 (see Planning Drawing for precise Site Layout). The total area of the site is 1.5 Hectares. The poultry unit as per Planning Ref 13366/12283 is approximately 50m north from the existing 3no poultry houses (74,000 bird's capacity). The new house has a capacity for 34,000 birds; amounting to a total of 108,000 birds.



## 1.2 Description of the Works

The buildings and its layout will be state of the art for the industry. A thorough review was undertaken of the best available techniques to minimise emissions from the unit and to maximize welfare conditions for animals and staff alike on-site. All facilities on-site are compliant with Best Available Techniques.

Soiled water arising from the washing down of the accommodation houses is utilised on the applicant's land adjacent to the unit and amounts to approximately 5 vacuum tanks a year. The application of the soiled water is regulated under the EU (Good Agricultural Practice for the Protection of Waters) 2014 S.I. 31 of 2014.

All clean surface water collected will be discharged to an adjacent drainage ditch. Roof water is collected via galvanized gutters and downpipes and diverted to this drainage ditch also.

On site there are currently 2 no 37.6m<sup>3</sup> precise underground effluent tanks, which hold all washings from the poultry houses and soiled water from the yards. This tank's construction conforms to the Department of Agriculture, Food and the Marine's specification S123 Minimum Specification for Bovine Units and Reinforced Tanks – March 2006.

The poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.

Feed silos, approximately 7.6 m high, 3.0 m diameter are installed adjacent to the accommodation houses.

The works proposed under the contract include, but is not limited to, the following elements of construction:

- Excavation for Tank of Gilt house Extension
- Construct Concrete manure tank
- Slats & Superstructure
- External Walls
- Craneage
- Feeding & Ventilation
- Biosecurity Washing and Cleaning of Tank
- Feed Bins
- Superstructure & Roofing
- Electrical Installation / Lighting

## 1.3 Environmental Policy Policy Document



Mooresfort,  
Lattin,  
Co. Tipperary

Tel: - 062 55385  
Email: - info@nrge.ie

### Environmental Policy

Protecting our shared environment is of fundamental importance to NRGE Ltd as it is to our employees and clients. The company is aware that our activities have an environmental impact and is committed to minimising this impact, through accountability, policies and effective management. To support this common goal, we will:

- comply with applicable local and state environmental regulations and legislation
- continually improve the environmental performance of activities and processes.
- protect the surrounding communities and ecosystems by working with local Heritage and Environmental groups in all locations where we carry out work.

We will work to achieve these commitments by:

- Requiring environmental awareness training of all our employees through designated Toolbox talks and invite employee consultation in environmental matters.
- Considering carefully the environmental impacts of all methods of construction before commencing any project.
- Considering the environmental impact of all business decisions.
- Evaluating products and processes from the point of view of chemical risk and endeavouring to find better alternatives based on pollution prevention in the first instance.
- Working with our clients, suppliers, sub-contractors and the surrounding community on environmental issues and minimise in as far as practicable noise pollution, traffic nuisance, and general disturbance to the locality during construction activities
- Minimising waste generation as far as is practicable to re-use and recycle and minimise waste by evaluating operations and ensuring they are as efficient as possible.
- Reducing the visual impact of our operations by good maintenance and housekeeping during construction and through cleaning on completion of projects.
- Reducing the environmental impact of materials and plant by storing material correctly and planning plant movements carefully to minimise transportation required.
- Providing the necessary resources to allow our environmental goals to be met.

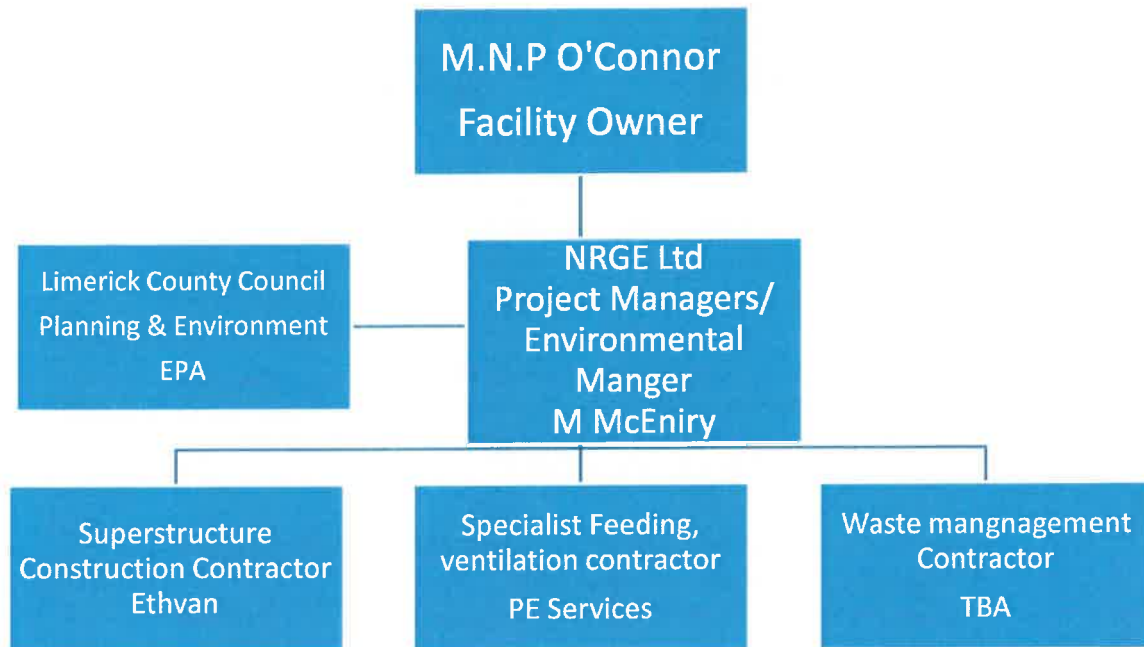
We will make every effort to ensure that environmental performance is an integral part of NRGE Ltd's performance and of the performance of all our employees. To this end, we will measure and periodically report on our progress in realising these commitments.

  
Michael McEniry  
(Director)

Nutrient Recovery to Generate Electricity Ltd is registered at Mooresfort, Lattin, Co. Tipperary. Company Reg. No 382619  
Directors: M. Sweeney, N. Sweeney, M. Mc Eniry.

#### 1.4 Project Organisational Structure

Management is committed to the implementation of this CEMP and M.N.P O'Connor in conjunction NRGE Ltd will provide all support and resources necessary to ensure that the plan can be implemented fully and effectively. Below please find the organisational chart for the implementation of the CEMP for the proposed works for the Poultry House



- The Facility Owner has overall responsibility for the implementation of the CEMP and the construction of the works in a safe and effective manner.
- The Project Manager/Environmental manger has the responsibility for the day to day management of the engineering staff and for ensuring that the contract requirements are met. has the responsibility of the day to day implementation, operation and maintenance of the CEMP on site.
- Environmental Manager function has the responsibility for the development and maintenance of the CEMP and monitoring compliance of the same with the NRGE EMS.
- The Superstructure Contractor is responsible for the effective day to day operations on site and reports to the Project Manager.
- Specialist Feeding, ventilation Contractor is responsible for the effective day to day operations of finishing the development for stock accomadation when the superstructure is complete, reporting to the Project Manager
- Waste management contactor is responsible for removal of all materials from the site to the appropriate licenced waste facilities, and will be reporting to the Project Manager

NRGE Ltd is committed to allocating all resources required to enable the CEMP to be implemented in full during the construction works for the Poultry House. All NRGE staff and contractors have the appropriate training and qualifications for the roles they undertake. Records of training in relation to the NRGE EMS are maintained on the Cloud system and are updated regularly. All equipment used on site is certified, serviced and calibrated when required. Records of calibration and servicing are maintained and updated on the Cloud system.



#### Responsibilities of Project Staff:

The Facility Owner will:

- a) Ensure that an effective Environmental Management Plan (hereafter referred to as the EMP) and Waste Management Plan (hereafter referred to as the WMP) exists within the Company.
- b) Ensure that adequate resources are available for implementation of the provisions of this EMP and WMP.
- c) Make the EMP a priority and show good example by having it high on the agenda at all management and staff meetings.
- d) Make all provisions for the EMP at planning, estimating and tender stages.
- e) Obtain, where necessary, the services of a competent person to advise on environmental aspects, if such expertise is not available in company.
- f) Ensure that there are adequate provisions for the management of environmental aspects on site.

The Project Manager will:

- a) Acquire a full and accurate knowledge and understanding of the EMP and ensure that all employees, self-employed and sub-contractors are made aware of their responsibilities under it.
- b) Ensure that the site specific EMP and WMP for the project is completed, updated as required and ensure that its terms are complied with so far as reasonably practicable. Understand the terms of the EMP and WMP and will ensure that all employees, self-employed and sub-contractors are made aware of their responsibilities under it.
- c) Ensure that a copy of the site specific EMP and WMP are on site and are available to all who may be affected by the company's activities.
- d) Ensure that any improvement measures noted on the monthly environmental inspections on site are implemented as necessary.
- e) Ensure that any identified training requirements are implemented.
- f) Ensure that an adequate supply of equipment for the environmental control measures is available on site.
- g) Ensure the repair of any reported defects in plant or equipment. A competent person on site will be appointed to keep plant in good working order.
- i) Know and understand the terms of the EMP for the project, and implement the control measures set out in it.
- g) Maintain a tidy workplace and arrange for regular clean-ups.
- k) Ensure that all access routes, walkways and doorways are maintained clean and free of trip hazards.
- l) Ensure that personal protective equipment such as hard hats, gloves, goggles, earmuffs and dust masks are available to employees as is necessary and ensure all sub-contractors personnel are issued with the same by their employer.
- m) Report any defects in equipment, plant or machinery to the Contracts Manager and organise for their repair.
- n) Ensure safe disposal of all waste material.
- o) Ensure all environmental accidents/incidents are prevented where possible. Where an accident/incident occurs, details of the same will be recorded.
- p) Ensure that unauthorised access by the public is considered and that works or equipment is made as safe as reasonably practicable.
- lq) Maintain all site records including waste disposed of off-site, stone imported and sub-soil removed off site.
- r) Ensure that Method Statements are prepared for any hazardous work and the precautionary environmental control measures clearly relayed to the workers involved.
- s) Detail the waste arising throughout the construction phases, the classification of each wastetype, waste collection permits for all waste contractors who collect waste from the site and the COR/permit or license for the receiving waste facility for all waste removed and disposed of offsite.

Liaise with and update legal and other requirements.

a) Control operation over the solid waste disposal.

b) Co-ordinate the provision for Emergency Planning in consultation with external agencies.

c) Advise the company on legislative requirements and codes of practice, in the industry.

d) Review the company documentation and procedures and advise on any updating required.

e) Complete regular environmental audits on site to ensure compliance with the EMP.

## 1.5 Key Contacts

Project Manger	Name	Michael McEniry
	Phone No	086 2500332
	<a href="#">email</a>	<a href="mailto:m.mceniry@nrge.ie">m.mceniry@nrge.ie</a>
Special Superstructure Contractor	Name	Ethvan
	Phone No	087 939 1443
	<a href="#">email</a>	<a href="mailto:ethvan@eircom.net">ethvan@eircom.net</a>
Specialist Feed/Penning Contractor	Name	PE Services
	Phone No	(049) 437 9144
	<a href="#">email</a>	<a href="mailto:info@prservices.ie">info@prservices.ie</a>
Waste /Demolition Contractor	Name	TBA
	Phone No	
	<a href="#">email</a>	

## Section 2 Environmental Management System

The aim of NRGÉ's EMS is to promote a responsible and proactive approach to the management of the system in accordance with the company Environmental Policy outlined in Section 1.3 above. NRGÉ is committed to continual improvement delivered using the NRGÉ Environmental Management System (EMS) based on the ISO 14001 standard. The Environmental Management System is applicable to all the process of the organisation performed on site :

This system:

1. Identifies the Environmental Management processes/procedures and their application throughout the organisation.
2. Determines the criteria and methods needed to ensure that the operation and control of these procedures is effective.
3. Ensures the availability of resources to support, monitor, measure and analyse the procedures.
4. Allows for implementation of actions to encourage continuous improvement.

The scope of this Construction Environmental Management Plan is the demolish the small outhouse and construct a new Poultry house. Please note that the Health and Safety aspects are covered under separate plans.

Environmental Management documents shall be developed in accordance with the Contract. This EMP forms the primary document in the EMS for the proposed works . Other documents to be used on site as part of the EMS will be:

- Site specific waste management plan

EMS reports and records for the contract shall be maintained by the Project Manager. Copies of EMS documents will be maintained in the site office and uploaded onto the NRGÉ Cloud System.

### 2.1 Normative References

The implementation of this plan is carried out with reference to:

- Contract Works Requirements
- NRGÉ Environmental Management System
- ISO 14001
- Construction standards
- Applicable Irish Legislation governing Contracts, Construction, Employment, Environmental, and Health and Safety Legislation
- Farm Development Specifications S144
- CIRIA (Construction Industry Research and Information Association) Guidance Documents
  - Control of water pollution from construction sites (C532)
  - Control of water pollution from linear construction projects: Technical Guidance (C648)
  - Control of water pollution from linear construction projects: Site Guide (C649)
  - Environmental Good Practice on Site (C692)
- NRA Guidance Documents Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes
- Inland Fisheries Ireland- Guidelines on Protection of Fisheries during Construction Works in and adjacent to water

## 2.2 Terms and Conditions

Following terms are used in this manual:

Abbreviations are used for easy understanding and familiarisations with terms used in specific industry segments.

The Company = NERGE Ltd

The Client = M.N.P. O'Connor

QMS = Quality Management System

EMS = Environmental Management System

H&S = Health and Safety Management System

OHS = Occupation Health and Safety

CAPA = Corrective and Preventive Actions

IA = Internal Audits

CD = Control of Documents

CR = Control of Records

IEC = Internal and External Communication

## 2.3 Objectives of the NERGE's EMS

As part of our commitment to ISO 14001, NERGE will ensure that we are attempting to reduce our significant aspects by setting our objectives and targets in relation to the aspects identified. The standard environmental management objectives for the project are to: Inland Fishereies

- consider carefully the environmental impacts of all methods of construction before commencing any project
- consider the environmental impact of all business decisions
- evaluate products and processes from the point of view of chemical risk and endeavoring to find better alternatives based on pollution prevention in the first instance
- work with our clients, suppliers and sub-contractors on environmental issues and minimise in as far as is practicable noise pollution, traffic nuisance, and general disturbance to the locality during construction activities
- minimise waste generation as far as is practicable, to re-use and recycle and minimise waste by evaluating operations and ensuring they are as efficient as possible
- reduce the visual impact of our operations by good maintenance and housekeeping during construction and thorough cleaning on completion of projects
- reduce the environmental impact of materials and plant by storing materials correctly and planning plant movements carefully to minimise transportation required
- providing the necessary resources to allow our environmental goals to be met

## **Section 3 Waste Management**

Below please find a brief description of the waste management procedures which will be adopted on site.

### **3.1 Introduction**

The purpose of this EMP is to identify the activities on the above contract that will generate waste and to outline how the waste will be dealt with. This report is produced in line with a Voluntary Construction Industry Initiative aimed at promoting Construction and Demolition Prevention, Reduction, Reuse of Material and recycling.

The project has been analysed against the waste hierarchy as shown below:

Strategy Ranking :

- Prevention Most Favoured Option
- Minimisation
- Re-use
- Recycling
- Energy recovery
- Disposal Least Favoured Option

### **3.2 Waste Classification**

All material designated for offsite disposal will be classified as inert, non-hazardous, or hazardous, in accordance with Council Decision 2003/33/EC and Directive 1999/31/EC. All materials which cannot be reused on site will be removed to an approved facility yet to be determined.

Segregation on site:

Material will be segregated onsite for the appropriate waste stream and disposal destination. Materials including timber, plastics and metal that will be encountered will be segregated and placed in the appropriate temporary storage skips until there are viable loads for removal offsite to a licensed waste facility yet to be determined.

### **3.3 Fuels**

Fuel tanks will be located in appropriate bunds to control spillages. All plant, fuel lines, pumps and drip trays will be checked on a daily basis. Machines will be refilled at specified filling points where measures will be implemented to prevent diesel or oil leakages entering the ground. Diesel spill kits will be available at these refueling points. Any machinery/hoses with oil/fuel leaks will be withdrawn from use, moved to a contained area and repaired without delay. The trip trays will be inspected as stated above and soakage sand will be removed and replaced as required. Any hydrocarbon contaminated soakage sand will be removed from the site and disposed of appropriately.

### **3.4 Concrete Waste from demolition of existing Structure**

The strategy to be adopted in this case will be recycling. Where possible precast concrete will be salvaged for re-use on site. Precast concrete not suitable for re-use will be classified as C&D waste and stockpiled removed off site by a permitted Waste Collection Contractor yet to be determined.

### **3.5 Emergency Procedures**

3.5.1 Nature of incidences that can create emergency

- Fire or smoke detected at the diesel storage tank.
- Fire or smoke detected in or around the works area.
- Spillage of fuel from fuel tanks or from pipelines carrying the fuel.

### 3.5.2 Communication of an emergency

In case an emergency situation is detected in any area of working on site or in the office, the following methods of communication must be adopted:

- The concerned person who has observed the emergency must immediately report the same to the Project Manger.
- The site agent must assess the gravity of the emergency and if they feel that the area needs to be vacated immediately, the alarm should be raised.
- On raising the alarm all employees, workers, staff, management should assemble at pre-designated point (identified at “Assembly Point” boards or markings).
- In other cases, site management should investigate the nature, kind and the seriousness of the emergency.
- In case the emergency is of a rare or serious nature, then, communication to concerned employees in the section must be immediately informed.

### 3.5.3 Actions to be taken:

1. Inform appropriate government/non-government authority as per legal requirement.
2. Contact nearest hospital/medical facility/emergency service providers and arrange for treatment of persons injured.
3. Internal team must come into action without any formal announcement or order and start evacuation and other activities as per plan.

### 3.5.4 Emergency Numbers:

NRGE Contacts

Project Manager: Michael McEniry 086-2500332

Hospital: Limerick University Hospital 999 or 112

Ambulance: Limerick University Hospital 999 or 112

Fire Brigade: NewcastleWest 999 OR 112

Garda: Newcastlewest 069-20650

HSA: James Joyce St, Dublin 1 1890289389

EPA: Environmental Complaints 1850365121

ESB: Underground/overhead services 1850372999

Carlow Council: Environmental Department 059 91 917 0300

Inland Fisheries Irl: Limerick Office 061 300238

### 3.6 Waste Management Control

The waste management plan will be implemented during the works outlining the procedures for waste handling, recycling, reuse, disposal and waste permits as required. Housekeeping on site and in the site office and welfare facilities will be monitored continuously throughout the contract to ensure that they are maintained in a tidy condition and that litter is cleaned up daily, particularly around site skips.

### 3.7 Hazardous Materials Handling & Storage:

There will be a requirement to use the following hazardous substances on site at various stages of the contract:

- fuel oil
- diesel
- hydraulic oil
- shuttering oil

The following control measures will be implemented on site for hazardous materials used:

1. Hazardous materials will be kept in lockable stores on site and will be clearly labelled.
2. Spill kits will be available at these locations.

3. Operatives will only bring to the works area those materials which they need and all hazardous materials will be returned to the lockable stores at the end of each working day.
4. Diesels will be stored in bunded storage tanks and spill trays will be used for generators and pumps as required.
5. Fuels and lubricants shall be carefully handled to avoid spillages.
6. Waste oils and hydraulic fluids shall be collected in leak proof containers and transported off site for disposal or recycling.

**Delivering fuel to the site:**

1. Delivery of fuel to the site will be by approved tanks or mobile re-fuelling tanks.
2. Delivery may be into on-site mobile re-fuelling tanks or directly into the equipment.
3. Supply tanks shall be operated by a competent person.

**Dispensing fuel:**

1. All dispensing or transferring of fuel will be attended for the duration of the operation. The attendant must be aware of proper fuel handling procedures to minimize the risk of a spill and shall continuously scan the area adjacent to the fuelling operation for possible leaks or spills.
2. The transferring and dispensing of fuel will be done with pumping equipment, an approved hose, and top-fill nozzle.
3. Ensure that 1nr site-appropriate spill containment kit is readily available.
4. When unreeling the fuel transfer hose and nozzle, the nozzle must be in the upright position. The nozzle shall be kept clear of the ground when returned to the reel or storage position.
5. Verify that there is a proper connection between the fuel fill hose and the fill pipe of the supply tank, mobile bowser, or the equipment being filled. Verify that the fill valve is open.
6. The transfer of fuel must be stopped prior to overflowing, leaving room for expansion.
7. Mobile bowsers and fuel tanks on vehicles and equipment are not to be overfilled.
8. The operation of moving equipment in the immediate area of a fueling operation shall be suspended.
9. Welding and/or burning operations within 3 metres must be stopped while fueling is in progress.
10. Maintain regular inspections of fuel systems and their components. Check for leakage, deterioration, or damage.
11. Smoking will be prohibited in the immediate area of the designated re-fueling point.
12. Fire extinguishers will be available near the designated re-fueling point in the event of a fire.
13. Combustible materials such as lubricants and greasy or oily rags will be kept separate from the designated re-fuelling point.

**3.8 Odour:**

It is not expected that significant quantities of material with the potential to generate odours will be encountered during the construction works however; general odour control measures will be implemented during the works. These will include exposure of waste material to the atmosphere for minimal time. Trucks transporting material to and from the site will be covered if necessary with a suitable tarpaulin which will minimise any odour dispersion. The expected nature and volumes of odour generating material does not warrant an odour suppression unit on-site.

**3.9 Noise:**

While increased levels of background noise are unavoidable during any construction works project, measures will be implemented to reduce the number of noise generating activities occurring concurrently.

**3.10 Dust:**

Control measures will be implemented to minimize dust generation and dispersion to ensure dust deposition does not occur beyond the site boundary. Stockpiles will be managed as outlined above to prevent any dust generation. Trucks transporting material from the site will be covered with a suitable tarpaulin if necessary which will minimize any dust dispersion during offsite transportation.

**3.11 Traffic:**

NRGE will manage all site traffic for the duration of the works and in particular during the transport of material for disposal offsite and transport onsite of materials.

**3.12 Road Maintenance:**

All approach roads to the site will be kept free from any deposits as a result of site works. Any material deposited on the road will be cleaned immediately. All vehicles leaving the site will be free of loose material on the wheels and undercarriage. Vehicles and trucks transporting material from the site will be covered with a suitable tarpaulin to prevent loss of loose material and dust.

**3.13 Litter:**

Waste generated at the site will be placed in appropriate receptacles which will be covered to prevent dispersion of material and littering. Regular walkovers of the site will be completed and any litter found will be immediately collected and placed in the appropriate skip/containers.



## **Section 4 Operational Control**

### **4.1 Noise Control**

The primary sources of noise and vibration associated with the works have been identified as follows:

- Craneage works for the replacement of the wall panels and roof superstructure and cladding,
- Engine noise from plant and machinery

In accordance with BS5228 (2009) 'Code of Practice for Noise and Vibration Control on Construction and Open Sites: Part 1: Noise', NRE shall implement the following good work practices to reduce noise and vibration at sensitive receptors during the construction of the project:

1. All vehicles and mechanical equipment shall be maintained in good and efficient working order. Daily inspection sheets for plant will be completed on site by the relevant plant operators and where maintenance/repairs are noted the site agent will arrange for the same without delay.
2. All compressors shall be "sound reduced" models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers.
3. Machines in intermittent use shall be shut down in the intervening periods between works or throttled down to a minimum. Generators, or any other plant, shall not be left running /operational after hours unless in an emergency, and agreed with the Employer's Representative.
4. Static machines shall be sited as far away as practicable from inhabited buildings.
5. Good relations with people living and working in the vicinity of the demolition works are important. People who are likely to be affected by the noise shall be informed, by letter drop or other appropriate means, of any works to be carried out outside normal working hours.
6. NREG shall organise their operations with regard to the positioning of plant and the location of haul routes etc., so that it minimises construction noise to adjacent properties.
7. Noisy works will only be completed during the normal working hours specified in the contract documents.
8. Plant emitting noise strongly in one direction will be orientated on site so that noise will be directed away from sensitive noise receptors.
9. A copy of the EPA 'Guidance Note for Noise: License Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' will be available on site for the duration of the works and will be referred to as required during the works.

#### **Complaints Procedure:**

Where complaints are raised in relation to environmental issues such as noise on site, NREG will immediately raise a non-conformance report to rectify the issue and close it out. The following procedure will be implemented for the closing out NCR's raised on site:

1. NREG will verbally inform M.N.P O'Connor of the incident on site immediately.
2. NREG will raise an NCR for the complaint noted. On the NCR NREG will make note of the root cause of the complaint, the corrective actions implemented as agreed on site and the preventative actions which will be present from that date.
3. The NCR will be closed out by the Project Manager when they have verified that the action plan as outlined in the NCR has been completed on site.
4. NREG will then forward a copy of the completed NCR to M.N.P O'Connor

### **4.2 Air Pollution & Dust**

Whilst construction activities are likely to produce some level of dust, these activities will mainly be confined to particles of dust greater than 10 microns. Particles of dust greater than 10 microns are considered a nuisance but do not have potential to cause significant health impacts. A dust minimisation plan will be developed by NREG which will serve to minimise any impacts on sensitive receptors and designated areas. The following control measures will be implemented on site as a minimum to control dusts on site:

1. NREG shall ensure that adequate provision is made to damp down areas where activities are likely to create dust. Measures shall include the spraying by pressure hoses to suppress dust.

2. Where stock piles are stored on site, they will be located in sheltered areas away from the watercourse. Stockpiles will be covered where required until such time as they are removed off site for disposal.
3. Plant shall be sited to minimise dust emission to adjoining areas.
4. NREG shall take all measures necessary to prevent spillage onto public roads adjoining the site and all roads forming part of the Site.
5. Public roads outside the site will be inspected regularly, at least daily, for cleanliness and cleaned as necessary.
6. In the event of mud or site material being deposited on a public road surface, NREG shall take all necessary steps to ensure the roads are cleaned immediately using road sweepers without adversely affecting public traffic.
7. NREG will ensure that exhaust emissions are minimized by ensuring that plant and machinery are maintained in good working order and regularly serviced to ensure efficient running.
8. Road sweepers will be employed as required to reduce the drag out of muck onto public roads.
9. During dry weather, NREG will ensure that dusts are dampened down to suppress dust in and around the site.
10. All trucks containing soil or similar fine material shall cover the load with tarpaulin or similar material.
11. All on-site vehicles will be restricted to a speed limit of 20km/hr.

#### **4.3 Waste Management Control**

The waste management plan as outlined above will be implemented during the works outlining the procedures for waste handling, recycling, reuse, disposal and waste permits as required. Housekeeping on site and in the site office and welfare facilities will be monitored continuously throughout the contract to ensure that they are maintained in a tidy condition and that litter is cleaned up daily, particularly around site skips.

#### **4.4 Hazardous Materials Handling & Storage:**

There will be a requirement to use the following hazardous substances on site at various stages of the contract:

- fuel oil
- diesel
- hydraulic oil
- shuttering oil

The following control measures will be implemented on site for hazardous materials used:

1. Hazardous materials will be kept in lockable stores on site and will be clearly labelled.
2. Spill kits will be available at these locations.
3. Operatives will only bring to the works area those materials which they need and all hazardous materials will be returned to the lockable stores at the end of each working day.
4. Diesels will be stored in bunded storage tanks and spill trays will be used for generators and plant as required.
5. Fuels and lubricants shall be carefully handled to avoid spillages.
6. Waste oils and hydraulic fluids shall be collected in leak proof containers and transported off site for disposal or recycling.

Hazardous waste will be recovered/recycled wherever possible and failing this, it will be disposed of appropriately.

## **Section 5 Auditing**

### **5.1 Environmental Audits**

Audits directed towards the elimination of possible hazards are basic to environmental protection and are the responsibility of all company employees. The major responsibility is assigned to Management Personnel and is general in nature, covering all activities and all possible hazards. Any operatives found to be exposed to risk during such audits are informed immediately of such risks. This clarifies points, provides immediate opportunity to rectify unsafe conditions or practices and difficulties are ironed out. Environmental audits will be carried out at a minimum of every 4 weeks by the Project Manager, or more frequently as required by the Client. A copy of these audits will be made available to M.N.P O'Connor. During the audit, emphasis will be placed on the following environmental aspects:

- noise
- dusts
- vibration
- storage of fuels and chemicals and availability of spill kits and spill trays
- housekeeping
- compliance of sub-contractors with NRG EMS

Following completion of the audit, it is signed by the site management and the Project Manager. A copy is forwarded to the Facility Owner for their review and signature. All environmental issues raised during the audits are actioned on site by the Project Manager.

Items for immediate attention must be attended to immediately. All other items must be attended to without unreasonable delay but in any case within seven days. Written confirmation that the actions have been completed is done by the site agent, uploaded to NRG's Cloud System. A copy of the audit is included below.



SITE ENVIRONMENTAL AUDIT

Project:

Location	Contract
Weather Conditions	Date
Project Mgr.	Time
	Inspected by

- Penalty Category
- A No Penalty deducted (no issues noted)
  - B 1 penalty deducted (documents/files/housekeeping)
  - C 2 penalty deducted (watercourse/waste/fuel/contaminated lands)
  - D Recurring item 90-day penalty deducted

(total % for safety on site marked out of relevant sections only below)

- 1 Requires immediate action
- 2 Requires action within 7 days
- 3 Requires action within 24 hours
- 4 Recurring action

Compliance on Site/ Penalty Deducted	A	B	C	D	Penalty	Action	Compliance on Site/ Penalty Deducted	A	B	C	D	Penalty	Action
<b>1 Materials &amp; Waste management</b>							<b>2 Chemical/Fuel Store</b>						
a Poor Housekeeping							a Bundled storage tanks for fuel						
b Recycling for site office							b Chemicals labelled						
c Recycling segregation							c Dedicated Chemical Storage Container						
d Waste Permit required							d Spill Kits on site						
e Waste handling procedures implemented							e Chemicals returned to Storage						
<b>3 Watercourses</b>							f Contaminated load						
a Concrete Washout Areas							a Stock piles identified						
b Entry of Site to Water courses							b Stockpiles secured and weatherproofed						
c Drip Trays for stationary plant							c Disposal in accordance with the Waste						
d Wheel Wash							d Disposal to Licensed Facilities						
e Settlement Areas for Pumping							e Documentation for Disposal Maintained						
<b>5 Noise &amp; Vibration</b>							f Approved Methodology of Revevals						
a Compliance with operating limits							e Air Pollution						
b Plant in good & efficient order							a Plans in good & efficient order						
c Plant shut down when not in use							b Burning of materials not permitted						
d Monitoring sensitive locations							c Dust reduced on haul roads						
e							d Speed limit enforced on haul roads						
<b>7 Housekeeping</b>							e Public road kept clean						
a Vermin Control in Place							<b>B Habitats</b>						
b Litter cleaned up regularly							a Liaison with Third Parties						
c Dust reduced on access roads							b SAC/SPA identified						
d Dust & slag out on public road							c EOT/EA reviewed & country's implemented						
e Site office containers maintained in a tidy condition							d vegetation removed during 'blackout period'						
							e Recommendations from Third parties implemented on site						



SITE ENVIRONMENTAL AUDIT

Project:

Compliance on Site/ Penalty Deducted	A	B	C	D	Penalty	Action	Compliance on Site/ Penalty Deducted	A	B	C	D	Penalty	Action
<b>9 Sub-contractor</b>							<b>10 Documentation</b>						
a Compliance with ISO 24001							a Environmental Plan in Place						
b Plant in good & efficient order							b Previous NCR's closed out						
c Plant in good & efficient order							c Audit Actions completed						
d Secure storage of chemicals and fuel							d EMS Emergency Procedures deployed						
e Spill Kits & drip trays available							e Environmental TBT Completed						
f Discharge to watercourse													

General Comments & Clarifications

General Comments & Clarifications

% Compliance  
 Penalty deducted:   
 Total marks

Compliance

Signed \_\_\_\_\_  
 Project Manger

Signed \_\_\_\_\_  
 Director

## **5.2 Environmental NCR's**

Where an environmental issue on site is raised by the Client, Consulting Engineer, state body or member of the public the project manager will investigate the issue on site without delay and will rectify the issue immediately. An Environmental Non- Conformance Report (NCR) is then filled out by the site agent/site engineer following completion of the corrective action and forwarded to NRG's Cloud System on completion.


Section 1 of the NCR outlines the environmental issue noted on site and names the initiator of the complaint.

Section 2, which is completed by the Project Manager, outlines the Actions to be completed:

1. Root Cause Analysis (How did the incident/issue happen)
2. Corrective Action (Fix now)
3. Preventative Action (Prevent recurrence)

Section 3 outlines the Verification of the Implementation of the Action Plan.

A copy of the NCR is included below.

	<b>ENVIRONMENTAL NON COMPLIANCE REPORT</b>		
Location		NCR No.	
Initiator		Date	
<b>SECTION 1 - Environmental ISUE Noted</b>			
Environmental Risk Identified			
<b>SECTION 2 - Actions</b>			
<b>Root Cause Analysis (How/why di this happen?)</b>			
<b>Corective Acton (Fix for now)</b>			
<b>Preventative Action (Prevention Reurrence)</b>			
Acceptance of Corrective Action		Due for Completion	.
<b>SECTION 3 - Verification of implemetaation of Action Plan</b>			
NCR Close Out by		Date	

#### **5.4 Environmental Incidents**

In the event of an environmental incident, immediate response is required to prevent or minimize the impact this event will have on the environment and the welfare of employees and the public. All personnel shall observe standard precautions for handling of materials as outlined in the Safety Data Sheets (SDS) for each material, including the use of PPE. Where conditions warrant, emergency spill containment supplies will be available for immediate use.

The following procedures will be implemented in the event of an incident of an environmentally damaging material:

1. All personnel in the immediate area of the release/spill shall be alerted to the hazardous material and the nature of the immediate danger to themselves and the environment.
2. If safe to do so, every effort shall be made to contain the materials within berms, by absorbent materials, or through other appropriate means until proper handling by disposal personnel may be mobilized to site. Particular attention needs to be taken to avoid contamination of surface water, storm sewers, groundwater, plants and animals.
3. All non-essential personnel shall be removed and kept back from the area until such time as the remediation of the area has been completed.

### **Section 6 Aquatic Ecology**

#### **6.1 Protection of the Watercourse**

The two main receptor identified in Screening Assessment is the surface water route from the farm to an open watercourse on to the Moanmore Stream and to the Barrow River. There are no significant impacts expected from the proposed works. However to ensure protection of the Barrow River the following mitigation measures will be adopted:

- Designated re-fuelling points will be established on site in the compound area away from the watercourse and all machines will re-fuel at this point only. Diesel spill kits will be provided at this location for the duration of the works.
- Storage of fuel, and servicing and refuelling of equipment or machinery will be at least 15m away from the watercourse.
- Chemicals used on site will be returned to the site compound and secured in a lockable container overnight away from the edge of the watercourse.
- Drip trays will be utilized on site for pumps situated within 25m of the watercourse and spill kits will be available at these locations for the duration of the contract.
- Daily plant inspections will be completed by all plant operators on site to ensure that all plant is maintained in good working order. Where leaks are noted on these inspection sheets, NRG will insist that plant is removed from operations for repairs.
- Stockpiles will be located away from the watercourses at a sheltered location. These stockpiles will be monitored during dry weather conditions to prevent dusts entering the watercourses.
- Sand bags should be used around any surface water gullies/drains not already blocked on site.
- Weather conditions will be taken into account when planning construction activities to minimise risk of run off from the site.
- There will be no concrete wash water generated on site.
- For the duration of the works NRG and all subcontractors will be in possession of and be familiar with the contents of the 'Control of water pollution from Construction Sites – Guidance for consultants and Contractors' published by the Construction Industry Research and Information Association.

No water will be disposed of during the construction of the proposed tank extension, any accumulated water in the tank excavation will be allowed to percolate through the soil, to ensure that no damage is caused to existing watercourses by erosion, siltation or contamination.

## **Section 8 Non-native Species Management**

Japanese Knotweed:

Eradication of the Japanese knotweed is by combined digging and spraying or using the cut and inject method in late October or November. However, the outcrop identified on site during the site visit does not interfere with the site operations and therefore NRG intend to erect fencing to prevent interference and potential spread.

## **Section 9 Protection of Bats**

No bat roosts were confirmed within the confines of the proposed development during the current surveys.

## **Section 10 Management Review**

Management Review of the CEMP will be completed during Environmental Committee meetings attended by the members of the Environmental Management Committee. During this review the following items will be discussed:

- Results of internal audits and evaluations of compliance with legal requirements and with other requirements to which organisation subscribes
- Communication from external interested parties, including complaints
- The EMS performance of the organisation
- The extent to which objectives and targets have been met
- Status of incident investigation, corrective and preventive actions
- Follow-up actions from previous management reviews
- Changing circumstances, including developments in legal and other requirements related to organisations EMS
- Recommendation for improvement

The site specific Environmental Management Plan will be reviewed by the Project Manager on a six monthly basis to ensure that it continues to be adequate and effective and changes implemented as required. Any changes will be made by the Environmental Manager and the revised CEMP will be circulated to the site agent.



## **5.6 Primary Sector Land Uses and Rural Development**

### **5.6.1 Agriculture**

#### **Background & Trends**

County Limerick traditionally has had a very strong agricultural base and agriculture still has an important role to play in the County's economy. With 6.8% of the County's workforce engaged in agriculture in 2006, this is significantly above the national average, which is 4.6%.

Within agriculture, dairying is by far the most important activity. There is also some raising of beef or store cattle, horse breeding and poultry, in certain areas. There is very little tillage in Limerick. The agricultural sector has reflected the national trend of declining employment in agriculture and the County continues to display a reduction in the numbers employed, although between 2001 and 2006 the rate of decline has slowed in comparison with previous inter-censal periods (399 or 100 a year compared to 1000 or 200 every year between 1991 and 1996).

Another challenge to the County is the agricultural quality of land. 44.5% of the land area is considered as being agriculturally disadvantaged, with approximately 69,960 hectares classified as less severely disadvantaged and 49,636 hectares as more severely disadvantaged according to the Department of Agriculture. These areas are concentrated mainly in the west, south and east of the County.

Although the agricultural sector has faced fundamental influences that changed its structure and role, it will continue to play a key role as a building block for a strong and diversified rural economy. Given the rural nature of the County, agricultural activity is also important in maintaining the viability of towns and villages. Rural areas have a vital contribution to make in the achievement of balanced development.

#### **Agricultural Development Policy**

The Planning Authority will support and facilitate agricultural developments and improvements where the developments are considered in relation to their likely impact on the character and amenity of the surrounding area.

**Objective ED O22: Agricultural developments**

The Council will normally permit development proposals for agricultural development where:

- (a) they are appropriate in nature and scale to the area in which they are located;
- (b) the proposal is necessary for the efficient use of the agricultural holding or enterprise;
- (c) where the proposal involves the erection of buildings, there are no suitable redundant buildings on the farm holding which would accommodate the development;
- (d) the development is not visually intrusive in the local landscape and, where the proposal is for a new building(s) and there are no suitable redundant buildings, the proposal is sited adjacent to existing buildings and suitably visually integrated in the holding; and
- (e) the proposal demonstrates that it has taken into account traffic, environmental and amenity considerations and is in accordance with the policies, requirements and guidance contained in this Plan.

Appropriate small-scale on-farm agricultural diversification will play an important role in retaining rural communities. These types of applications will be favourably considered where the scale and nature of the activity is appropriate to the location, and the proposal can be satisfactorily integrated into the rural landscape. Typical uses could include those such as the following, defined as examples of farm based diversification into non-agricultural activities in the CAP Rural Development Programme 2007-2013 (p141):

- Provision of tourism facilities. The type of facilities envisaged would be renovation of farm buildings for tourism purposes, walking, cycling, angling, pony trekking, bird watching etc.
- Development of niche tourism and educational services such as arts and crafts, speciality food provision, open farms etc.
- Development of farm shops selling home/locally grown and manufactured products.

**Objective ED O23: Farm diversification**

The Council will normally permit development proposals for farm diversification in the open countryside where the proposal:

- (a) would not negatively affect public health or agricultural operation on neighbouring farms;
- (b) the proposal is of a size and scale which is sympathetic to and which does not negatively impact on the character and amenity of the surrounding area; and
- (c) the proposal demonstrates that it has taken into account traffic, environmental and amenity considerations and is in accordance with the policies, requirements and guidance contained in this plan.

All development in the countryside will be required to respect the appearance and character of the rural landscape.

Notwithstanding the overall policy of locating enterprise development in appropriately zoned lands in and adjacent to settlements, consideration will also be given to small-scale enterprise proposals in the countryside. These small-scale enterprises will generally be family owned and operated businesses and will need to satisfy traffic, public health and amenity and environmental requirements.

**Objective ED O24: Home-based employment**

It is the objective of the Council to normally permit proposals for employment generating development which involve the change of use or new development for purposes of home-based employment where it can be clearly demonstrated that:

- a) the proposal is of an appropriate scale for its location; and
- b) the proposal will not give rise to adverse environmental, health or transport effects or be prejudicial to residential amenity.

**Objective ED O25: Expansion of existing industrial or business enterprises in the countryside**

It is the objective of the Council to normally permit development proposals for the expansion of existing industrial or business enterprises in the countryside where:

- a) the resultant development is of a size and scale which remains appropriate and which does not negatively impact on the character and amenity of the surrounding area; and
- b) the proposal demonstrates that it has taken into account traffic, public health, environmental and amenity considerations and is in accordance with the policies, requirements and guidance contained in this plan.

### 5.6.2 Forestry

Forestry is an important renewable resource with a major role to play in sustainable rural development. The National Government is committed to developing a strong forestry sector in Ireland and has set a target to increase the national forest estate from 9% to 17% of land cover.

In addition to the direct benefits, forestry also has an important impact on rural economies through the development of related industries and rural tourism. The main forest amenity areas in the County are provided at Currachase, Galteewood, Clare Glens and Ardpatrick.

Concerns of many rural communities that a proliferation of large-scale monoculture plantations would lead to changes in the landscape and increase the sense of isolation has lead to the introduction of afforestation targets by species and the requirement for planning permission involving plantations of 50ha or more. Planning permission is





## Natura Impact Statement

Planning Application for an existing  
Poultry Unit and the construction of an  
additional adjacent modern design  
Poultry House  
at  
Templeglantine  
Co. Limerick

**Planning Application to Limerick County Council**

**Poultry Unit**

**Rathcahill West Templeglantine, Co. Limerick**

Document Stage	Document Version	Prepared by
Final	2	Pat Doherty MSc, MCIEEM

## Table of Contents

<b>1.0</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>1.1</b>	<b>GUIDANCE</b>	<b>2</b>
1.1.1	BACKGROUND TO HABITATS DIRECTIVE ARTICLE 6 ASSESSMENTS	2
<b>2.0</b>	<b>PROJECT DESCRIPTION</b>	<b>4</b>
2.1.1	FACILITIES	4
2.1.2	DRAINAGE	4
2.1.3	SOILED WATER	4
2.1.4	STORM/CLEAN SURFACE WATER	6
2.1.5	STORAGE TANKS	6
2.1.6	POULTRY LITTER	6
2.1.7	FEED SILO	6
2.1.8	HEATING	6
2.1.9	FEEDING/DRINKING APPARATUS	6
2.1.10	TRAFFIC	7
2.1.11	NOISE & ODOUR	7
2.1.12	WASTE MANAGEMENT	7
2.1.13	MONITORING AND REGISTER	7
<b>3.0</b>	<b>DESCRIPTION OF THE PROJECT SITE SETTING</b>	<b>7</b>
<b>4.0</b>	<b>EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT</b>	<b>8</b>
4.1	FEATURES OF EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT	9
4.1.1	STACKS TO MULLAGHAREIRK MOUNTAINS, WEST LIMERICK HILLS AND MOUNT EAGLE SPA	9
4.1.2	LOWER RIVER SHANNON SAC	10
<b>5.0</b>	<b>CONSERVATION OBJECTIVES</b>	<b>14</b>
<b>6.0</b>	<b>DESCRIPTION OF ELEMENTS OF THE PROJECT LIKELY TO GIVE RISE TO IMPACTS TO FEATURES OF INTEREST</b>	<b>15</b>
<b>7.0</b>	<b>ASSESSMENT OF IMPACTS</b>	<b>16</b>

<b>7.1</b>	<b>ASSESSMENT OF POTENTIAL EFFECTS TO THE LOWER RIVER SHANNON SAC</b>	<b>21</b>
<b>7.2</b>	<b>IN-COMBINATION EFFECTS</b>	<b>28</b>
<b>7.3</b>	<b>A DESCRIPTION OF HOW THE INTEGRITY OF THE SITE IS LIKELY TO BE AFFECTED BY THE PROJECT</b>	<b>28</b>
<b>7.4</b>	<b>A DESCRIPTION AND EVALUATION OF MITIGATION MEASURE</b>	<b>29</b>
<b>7.4.1</b>	<b>BEST PRACTICE CONSTRUCTION &amp; DESIGN MEASURES</b>	<b>29</b>
<b>7.4.2</b>	<b>LIKELIHOOD OF MITIGATION MEASURES AND ENVIRONMENTAL SAFEGUARDS SUCCEEDING</b>	<b>31</b>
<b>8.0</b>	<b>CONCLUSION</b>	<b>33</b>
<hr/>		
<b>REFERENCES</b>		<b>35</b>



## **1.0 INTRODUCTION**

Doherty Environmental Consultants (DEC) Ltd. has been commissioned by NRGE Ltd. to prepare a Natura Impact Statement in respect of a Planning Application for an existing Poultry Unit and the construction of an additional adjacent modern design Poultry House at Michael Noel Patrick O'Connor's Poultry Farm at Rathcahill West Templeglantine, Co. Limerick.

The project is located in close proximity to the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (see Figure 1.1 for location). It is not directly connected with or necessary to the management of this or any other European site and hence the requirements of Article 6(3) of the Habitats Directive and Part XAB of the Planning and Development Act 2000, apply. Section 177U(1) of the Planning and Development Act 2000 requires that a screening for an appropriate assessment of, inter alia, an application for consent for a proposed development be carried out by a competent authority to assess, in light of best scientific knowledge, whether the proposed development, individually or in combination with another plan or project is likely to have a significant effect on a European site. A Screening for Appropriate Assessment was completed by the EPA in August 2016 and it was determined that an Appropriate Assessment was required. The EPA Screening concluded that the project will have the potential to contribute to elevated ammonia levels at the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA.

Accordingly, this NIS has been prepared to inform the Appropriate Assessment of the project's potential to result in likely significant effects to the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA as a result of elevated ammonia emissions. Surface water emissions from the project site to the Lower River Shannon SAC catchment are also considered and assessed as part of this NIS.

## 1.1 GUIDANCE

This NIS has been undertaken in accordance with National and European guidance documents: *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities* (DEHLG 2010) and *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats directive 92/43/EEC*. The following guidance documents were also of relevance during this the preparation of this NIS:

- A guide for competent authorities. Environment and Heritage Service, Sept 2002. *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (2010). DEHLG.
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – Methodological Guidance of the Provisions of Article 6(3) and (4) of the Habitats Directive 92/42/EED*. European Commission (2001).
- *Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats directive 92/43/EEC*. European commission (2000). (To be referred to as MN 2000).
- *Guidance on Article 6(4) of the Habitats Directive 92/43/EEC – Clarification of the Concepts of: Alternative Solutions, Imperative reasons of Overriding Public Interest, Compensatory Measures, Overall coherence, Opinion of the Commission*. European Commission (2007).

### 1.1.1 Background to Habitats Directive Article 6 Assessments

The EC (2001) guidelines outline the stages involved in undertaking an assessment of a project under Article 6(3) and 6(4) of the Habitats Directive. The assessment process comprises the four stages outlined below. Stage 1 to 3 form part of the Article 6(3) process, while Stage 4 forms part of the Article 6(4) process. This NIS presents the findings of an assessment for Stage 2 of this assessment process.

- **Stage 1 – Screening:** This stage defines the proposed plan, establishes whether the proposed plan is necessary for the conservation management of the Natura 2000 site and assesses the likelihood of the plan to have a significant effect, alone or in combination with other plans or projects, upon a Natura 2000 site.

- Stage 2 – Appropriate Assessment: If a plan or project is likely to have a significant affect, an Appropriate Assessment must be undertaken. In this stage the impact of the plan or project to the Conservation Objectives of the Natura 2000 site is assessed. The outcome of this assessment will establish whether the plan will have an adverse effect upon the integrity of the Natura 2000 site.
- Stage 3 – Assessment of Alternative Solutions: If it is concluded that, subsequent to the implementation of mitigation measures, a plan has an adverse impact upon the integrity of a Natura 2000 site it must be objectively concluded that no alternative solutions exist before the plan can proceed.
- Stage 4 – Where no alternative solutions exist and where adverse impacts remain but imperative reasons of overriding public interest (IROPI) exist for the implementation of a plan or project an assessment of compensatory measures that will effectively offset the damage to the Natura site 2000 will be necessary.

#### **1.1.1.1 Stage 2: Appropriate Assessment**

The EC Guidance Assessment Criteria for a Stage Two Appropriate Assessment seeks the following information:

1. A description of the elements of the project that are likely to give rise to significant effects to European Sites;
2. The Setting out the Conservation Objectives of the Site;
3. A description of how the project will affect key species and key habitats;
4. A description of how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project (e.g. loss of habitat, disturbance, disruption, chemical changes, hydrological changes etc.);
5. A description of the mitigation measures that are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of European Sites.

## **2.0 PROJECT DESCRIPTION**

The site of the Poultry Unit is located approximately 9km South West of Newcastle West and 1km from the village of Templeglantine, which is to the North East of the Unit (see Figure 2.1 for location).

The total area of the site is 1.37 Hectares. The proposed poultry unit is approximately 50m North from the existing 3no poultry houses (74,000 capacity).

### **2.1.1 Facilities**

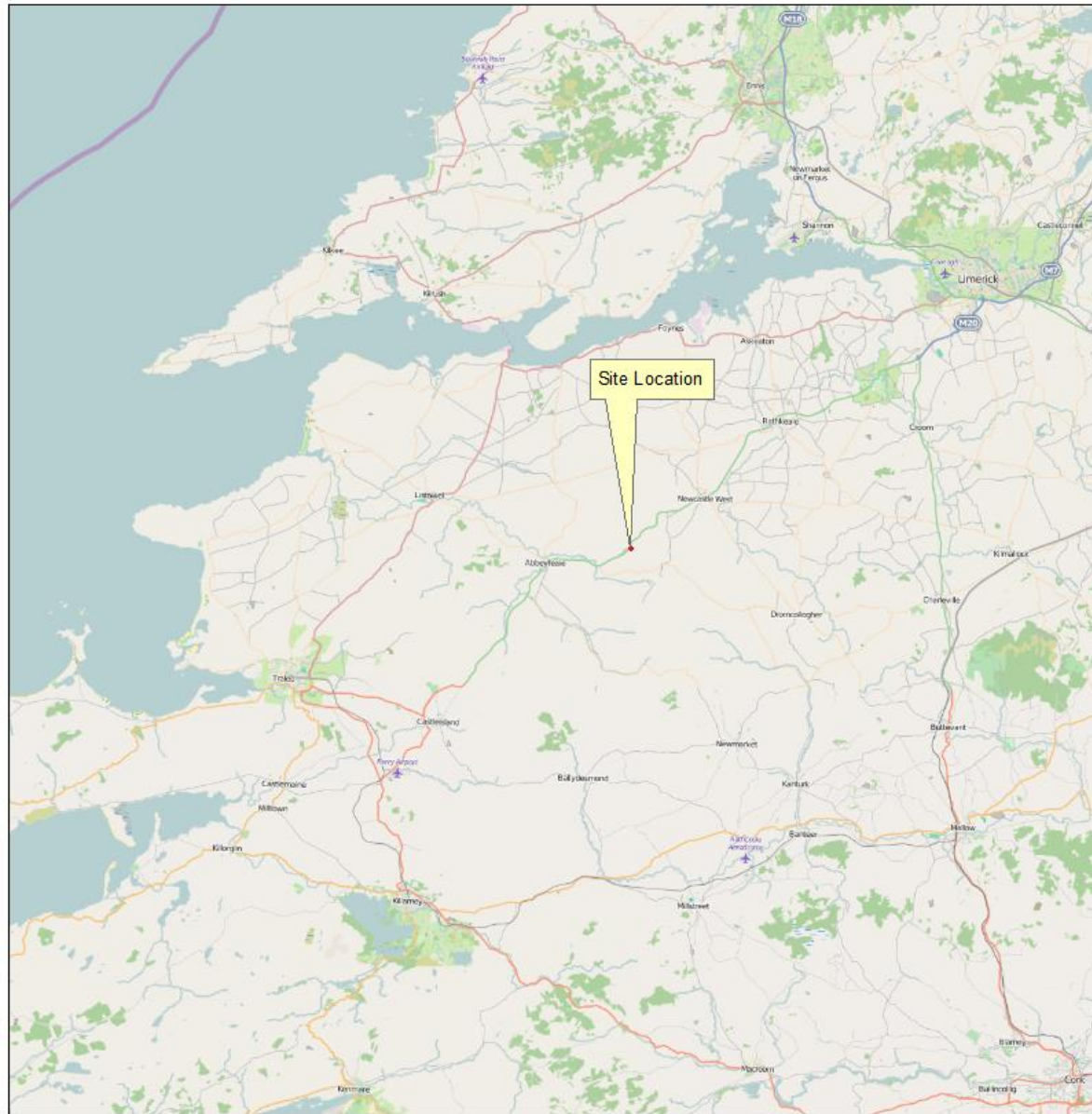
The buildings and its layout will be state of the art for the industry. A thorough review was undertaken of the best available techniques to minimise emissions from the unit and to maximize welfare conditions for animals and staff alike on-site. All facilities on-site are compliant with Best Available Techniques.

### **2.1.2 Drainage**

All storm water from the yard will be diverted via a clean water drainage system to a single storm water monitoring point indicated as SW1 on the Site Layout Plan, which discharges to a small drainage ditch. This monitoring point will be inspected weekly and sampled quarterly for COD at an Independent Laboratory.

### **2.1.3 Soiled Water**

Soiled water arising from the washing down of the accommodation houses is utilized on the applicant's land adjacent to the unit and amounts to approximately 5 vacuum tanks a year. The application of the soiled water is regulated under the EU (Good Agricultural Practice for the Protection of Waters) 2014 S.I. 31 of 2014.



### MN O'Connor Poultry

Figure 2.1

### Site Location

 Site Boundary

0 4.5 9 18 Km



Drawn By	PD
Date	23/05/2017
Data Source	Bing

#### **2.1.4 Storm/clean surface water**

All clean surface water collected will be discharged to an adjacent drainage ditch. Roof water is collected via galvanized gutters and downpipes and diverted to this drainage ditch also.

#### **2.1.5 Storage Tanks**

On site there are currently 3 no 37.6m<sup>3</sup> precise underground effluent tanks, which hold all washings from the poultry houses and soiled water from the yards. This tank's construction conforms to the Department of Agriculture, Food and the Marine's specification S123 Minimum Specification for Bovine Units and Reinforced Tanks – March 2006.

#### **2.1.6 Poultry Litter**

The poultry litter from this unit is supplied to Custom Compost of Ballyminaun Hill, Gorey, Co. Wexford for use in the production of mushroom compost. The litter is removed off site on the same day as the shed cleaning is carried out.

#### **2.1.7 Feed Silo**

Feed silos, approximately 7.6 m high, 3.0 m diameter are installed adjacent to the accommodation houses.

#### **2.1.8 Heating**

Gas heating is installed in all poultry houses.

#### **2.1.9 Feeding/Drinking Apparatus**

An auger style feeding system is installed in each unit which has a low pan for easy access and low flow nipple-type drinkers with a drip cup to reduce spillages to the floor.

#### **2.1.10 Traffic**

The poultry unit is serviced by a local unnamed road, 1km from the village of Templeglantine. The Unit's entrance joins this road on a straight stretch giving maximum visibility for traffic. The increase in the use of raw materials associated with the increase in poultry growing operation will not lead to a significant increase in traffic movements. Therefore, there will be no impact on the existing road network.

#### **2.1.11 Noise & Odour**

This Poultry operation has no significant effect on noise or odour. To date there has been no direct noise or odour related complaints made to the existing Poultry Unit.

#### **2.1.12 Waste Management**

Michael Noel Patrick O' Connor has existing procedures in place with regards to waste management, in accordance with Part III of the Waste Management Acts 1996, as amended. These are outlined in the Waste Management Plan prepared by NRGE Ltd.

#### **2.1.13 Monitoring and Register**

Proposals for monitoring storm water emissions at the site and noise monitoring locations carried out during the baseline survey are set down in the Environmental Report. There are no proposed monitoring measures for dust or odour at the unit. However, if any complaints are received, a follow up investigation will be initiated.

An Annual Environmental Report will be submitted annually to the Environmental Protection Agency, in accordance with the requirements of an Industrial Emissions Licence.

### **3.0 DESCRIPTION OF THE PROJECT SITE SETTING**

The project site lies immediately to the north of an existing poultry unit. The project site and the existing poultry unit are located in an area that is relatively flat with existing poultry units well screened by hedgerows from the N21.

Rural, agricultural land with little topographic relief occurs on-site. Much of the landscape surrounding the site is flat where levels are commonly 127m to 136m. Throughout the area the land is farmed with fields enclosed with a varied mix of hawthorn and blackthorn hedges, stonewalls and fences. Improved agricultural grassland dominates the surrounding land cover.

Improved agricultural grassland dominates the development footprint with surrounding hedgerows and tree lines.

#### **4.0 EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT**

The Screening for Appropriate Assessment completed by the EPA identified the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA as the only European Sites occurring within the sphere of influence of the project.

Two other European Sites, the Lower River Shannon SAC and the Blackwater Valley SAC, occur within the wider area surrounding the project site. The Blackwater Valley SAC is located over 14km from the project site and is located within a separate surface water catchment. In light of the absence of any hydrological pathways linking the project site to this SAC and the distance between both locations, it is considered that the project will not have the potential to result in likely significant effects to the Conservation Objectives of this SAC.

However the project site is located within the same surface water catchment as the Lower River Shannon SAC. Surface waters emanating from the project site drain to the Ballymurragh East Stream, which is an upstream feeder stream of the Eeighaun River. The Eeighaun River in turn drains to the River Feale which forms part of the Lower River Shannon SAC. The confluence of the Eeighaun River and the River Feale is the nearest point of this SAC to the project site and is located approximately 5km downstream from the project site. In light of this hydrological pathway and the presence of freshwater lotic qualifying habitats and species of the SAC, occurring along the River Feale downstream of the project site, this SAC is considered to occur within the sphere of influence of the project and could be negatively affected by the project in the event of aqueous pollution emissions from the project site. As such the potential for the project to result in likely significant effects to the Lower River Shannon SAC is also assessed in this NIS.



## **4.1 FEATURES OF EUROPEAN SITES OCCURRING WITHIN THE SPHERE OF INFLUENCE OF THE PROJECT**

### **4.1.1 *Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA***

The Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA is designated for its role in supporting a population of breeding Hen Harrier. This species ranges widely over the area surrounding the project site. The following sections of this NIS assess the potential for the project to result in likely significant effects to the conservation status of Hen Harrier.

The preferred breeding habitat of Hen Harrier in Ireland is within pre-thicket forest habitats (Wilson *et al.*, 2005; Barton *et al.*, 2006; Ruddock *et al.*, 2008; Irwin *et al.*, 2008; Wilson *et al.*, 2009). This species is known to prefer heather dominated upland moorland in Britain (Redpath *et al.*, 1998, Sim *et al.*, 2007) and a number of nest sites in Ireland have also been recorded in this habitat. It is noted that no examples of suitable breeding habitat in the form of pre-thicket forestry or heather dominated upland moorland occur in the immediate vicinity of the project site. Small patches of closed canopy mature conifer plantation occur to the east of the project site, but this forestry does not offer suitable breeding habitat for Hen Harrier. A confined area of upland moorland is located approximately 1km to the south of the site, in the townland of Tournafulla. There is no record of this area being utilised as a breeding site by Hen Harriers. Furthermore the 2015 National Hen Harrier Survey (Ruddock, 2016) did not result in the confirmation or the identification of probable Hen Harrier nesting within the hectad R12 in which the project site is located. It is noted that the 2010 National Hen Harrier Survey (Ruddock, 2012) did confirm the presence of breeding Hen Harrier within this hectad.

The foraging habitat preferences of hen harriers are generally biased towards moorland/grassland mosaic habitats (see Amar *et al.*, 2008, Amar *et al.*, 2011), which support larger numbers of hen harrier preferred prey species, such as meadow pipit (*Anthus pratensis*) and skylark (*Alauda arvensis*). The Hen Harrier habitats of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA have been mapped (Moran & Wilson-Parr, 2014) and a review of this map shows that no example of moorland and grassland mosaic habitats occur within close proximity to the project site. Figure 4.1 shows the results of this mapping exercise with respect to the habitats mapped in the vicinity of the project site. Moran & Wilson-Parr (2014) mapped an area of wet and dry heath, approximately 133m to

the northwest of the project site (i.e. the nearest point of the SPA to the project site). However following field visits this polygon is more representative of marsh rather than heath due to the dominance of hydrophilous vegetation such as *Filipendula ulmaria*, *Iris pseudacorus* and *Juncus* species and the absence of dwarf shrub vegetation. This change in habitat classification is noted in Figure 4.1.

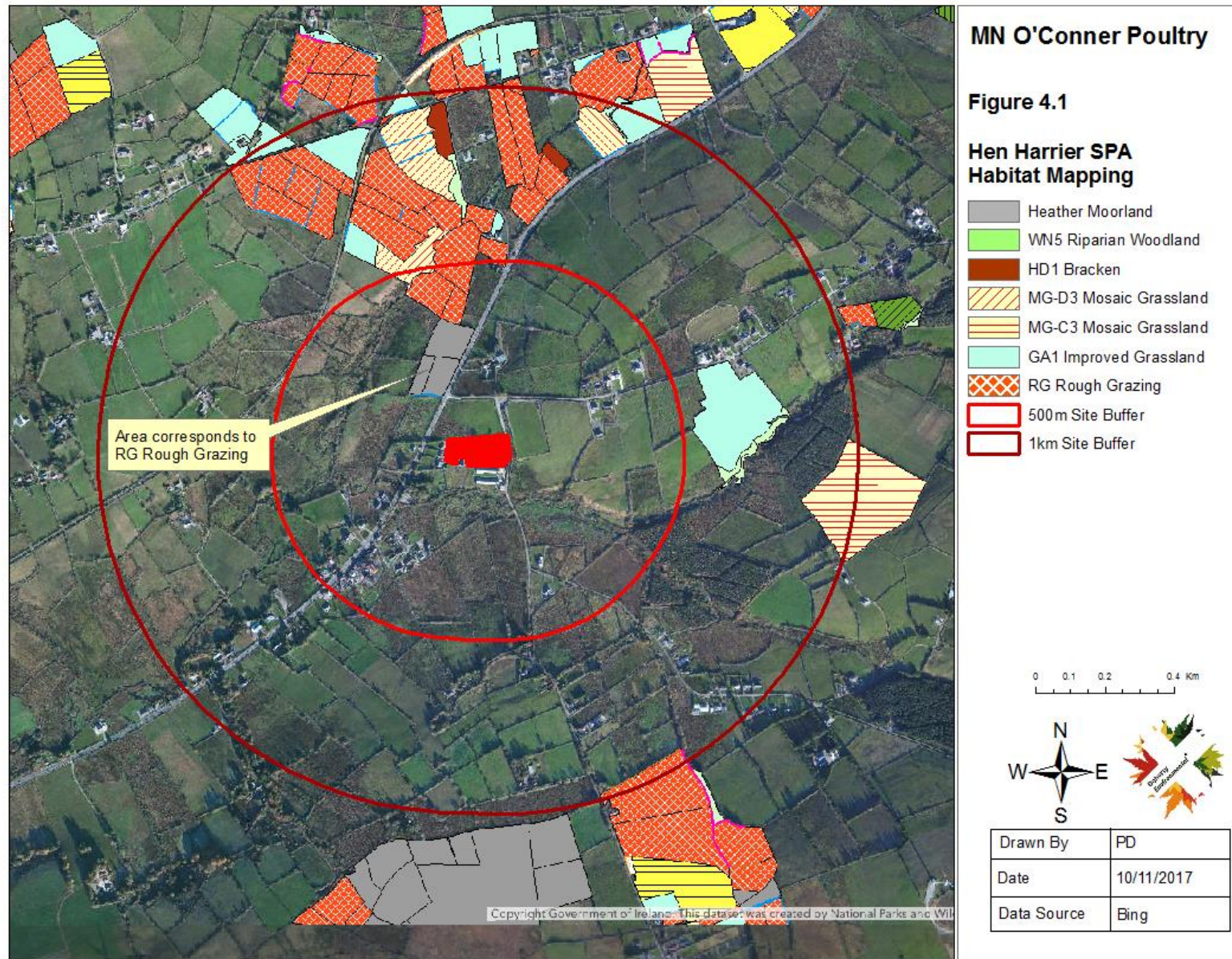
Figure 4.1 shows that the habitats of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA occurring within 1km of the project site comprise grassland habitats with varying levels of *Juncus* dominance as well as improved agricultural grassland. These grassland habitats range from intensively managed short sward grassland to extensively or unmanaged rough grassland. For Hen Harrier's the importance of these grassland habitats relates to the shelter they provide for prey species such as grassland nesting birds and small mammals. Sward height rather than sward composition is the principal attribute of these grassland habitats that provide support for foraging Hen Harriers.

No example of peatland habitat occur within a 1km radius of the project site. As noted above the nearest example of a peatland habitat is located just over 1km to the south of the project site in the townland of Tournafulla.

During the 2015 National Hen Harrier survey rough grazing was the second most utilized open habitat for foraging Hen Harrier, with 12.4% of foraging observations recorded in this habitat. Improved grassland, the other open habitat dominating the area surrounding the project site, was not relied on for foraging with only 1.9% of hunting observations recorded in this habitat. However it is noted that heather moorland is the most important foraging habitat for this species with 30% of all foraging observation made in this habitat. Hen Harrier foraging habitat is biased towards open moorland and the diet is predominantly comprised of open moorland passerines and small mammals. As can be seen in Figure 4.1 no examples of heather moorland habitat occurs within the immediate vicinity of the project site.

#### **4.1.2 Lower River Shannon SAC**

The qualifying features of interest of the Lower River Shannon SAC are listed in Table 4.1 and an assessment is provided for the features likely to occur within the sphere of influence of the project.



**Table 4.1: Identification of Qualifying Features Interest occurring within the Sphere of Influence of the Project**

European Sites	Qualifying Interests	Does the qualifying feature of interest/special conservation interest occur within the Sphere of Influence of the Project
2165 – Lower River Shannon	Estuaries	No. The nearest example of this habitat is located at remote distances downstream. The distance between this project site and this feature will be sufficient to ensure that it is located outside the sphere of influence of the project.
	Mudflats and sandflats not covered by seawater at low tide	No, see reasons for estuaries above.
	Coastal Lagoons	No, see reasons for estuaries above.
	Vegetated sea cliffs of the Atlantic and Baltic coasts	No, see reasons for estuaries above.
	Salicornia and other annuals colonizing mud and sand	No, see reasons for estuaries above.
	Atlantic salt meadows (Glaucopuccinellietalia maritimae)	No, see reasons for estuaries above.
	Mediterranean salt meadows (Juncetalia maritimi)	No, see reasons for estuaries above.
	Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation (to be referred to as “floating river vegetation”)	Yes. Examples of this qualifying habitats are likely to be supported by the River Feale.
	Sandbanks which are slightly covered by sea water all the time	No, see reasons for estuaries above.
	Large shallow inlets and bays	No, see reasons for estuaries above.
	Reefs	No, see reasons for estuaries above.
	Perennial vegetation of stony banks;	No, see reasons for estuaries above.

	Spartina swards (Spartinion maritimae);	No, see reasons for estuaries above.
	Molinia meadows on calcareous, peaty or clay-silt-laden soils (Molinion caerulecae);	No, see reasons for estuaries above.
	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)*;	No. No example of this riparian habitat occurs downstream of the project site.
	River Lamprey;	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
	Brook Lamprey;	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
	Sea Lamprey	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
	Atlantic Salmon	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.
	Bottle-nosed Dolphin	No. This species occurs at the outer and middle Shannon Estuary.
	Freshwater Pearl Mussel	No. This feature does not occur within the sphere of influence of the project.
	Otter	Yes. This species is likely to occur along the Black River at and in the vicinity of the project works.

From Table 4.1 above the qualifying features of interest of the SAC that occur within the sphere of influence of the project are:

- Floating river vegetation
- Atlantic salmon;
- Freshwater pearl mussels
- Brook lamprey;
- River lamprey;
- Sea lamprey; and
- Otter.

These features represent the key features/species occurring within the sphere of influence of the project.

## **5.0 CONSERVATION OBJECTIVES**

The overall Conservation Objectives for the special conservation interest bird species of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA is to maintain the favourable conservation status of bird species for which the SPA is designated (i.e. Hen Harrier). The favourable conservation status of breeding Hen Harrier will be achieved when:

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

The overall Conservation Objectives for the Lower River Shannon SAC's floating river vegetation and Annex 2 species occurring in the sphere of influence of the project is to maintain the favourable conservation status of the Annex 1 Habitats and Annex 2 Species for which the SPA is designated.

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

Site-specific Conservation Objectives for European Sites provide further details on the attributes and targets that define favourable conservation status. No Site-specific Conservation Objectives for the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA have been published by the NPWS. Furthermore there are no Site-specific Conservation Objectives published by the NPWS for any other SPA's designated for Hen Harriers or other raptor species that could be used as a guide to this assessment. However the Northern Ireland Environment Agency (NIEA) have published draft Conservation Objectives for the breeding Hen Harrier population of the Antrim Hills SPA. Annex 1 of these draft Conservation Objectives outline the attributes and targets that are used to define the favourable conservation status of breeding Hen Harrier. These attributes and targets are outlined in Table 7.1 below and are used as the basis for assessing the potential for the project to result in likely significant effects to the breeding Hen Harrier population of Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA.

Site-specific Conservation Objectives have been published for the Lower River Shannon SAC and the qualifying features of interest that occur within the sphere of influence of the project. The Site-specific Conservation Objectives for these qualifying habitats species are outlined in Section 7 below.

## **6.0 DESCRIPTION OF ELEMENTS OF THE PROJECT LIKELY TO GIVE RISE TO IMPACTS TO FEATURES OF INTEREST**

The elements of the project that require assessment for their potential to result in likely significant effects are:

1. Adverse effects to the status of breeding Hen Harrier as a result of ammonia emissions during the operation phase of the project; and
2. Adverse effects to the status of the selected qualifying features of interest of the Lower River Shannon SAC as a result of potentially polluting aqueous emissions from the project site to the Lower River Shannon SAC catchment.

## **7.0 ASSESSMENT OF IMPACTS**

An NIS is required to assess the potential for impacts to the integrity of a European Site, with respect to the site's structure and function and its Conservation Objectives. The structural and functional elements of a European Site to maintain the favourable conservation status of qualifying feature of interest are embedded into the list of detailed site-specific Conservation Objectives for each of the site's interest features. As such the detailed Conservation Objectives of a European Site represent the parameters against which an assessment of a project's potential to adversely affect the integrity of a European Sites should be undertaken.

Table 7.1 and 7.2 lists the Conservation Objectives attributes and targets for each of the features of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower River Shannon SAC occurring within the sphere of influence of the project and provides an assessment of the potential for the project to undermine each of these targets.



**Table 7.1: Assessment of Potential Impact to the Site-Specific Conservation Objectives for Breeding Hen Harriers**

Attribute No.	Attribute	Measure	Target	Assessment
1	Hen Harrier breeding population	No. Breeding Pairs	No significant decrease in breeding population against national trends.	<p>The project site is not located within the vicinity of any known breeding site for Hen Harriers. No breeding Hen Harrier were recorded within the hectad in which the project site is located during the 2015 National Hen Harrier Survey.</p> <p>The habitats occurring in the wider area surrounding the project site are not representative of optimum breeding habitat for Hen Harrier. The nearest area of upland moorland habitat to the project site is over 1km to the south in the townland of Tournafulla. A confined area of peatland habitat, comprising approximately 45 ha occurs here. This area is surrounded by intensively managed improved agricultural grassland and its perimeter area is likely to be subject to routine disturbance from agricultural activities.</p> <p>As such it is considered that the project will not have the potential to result in a decrease in the population of breeding Hen Harrier as a consequence of disturbance to their nest sites.</p> <p>No high value foraging habitat, in the form of open upland moorland occurs within 1km of the project site. Hen Harrier foraging habitat surrounding the project site is dominated by rough</p>

				<p>grazing, marsh and improved grassland.</p> <p>The potential for ammonia emissions from the project site to result in significant changes to these habitats and by extension result in a deterioration of the potential for these habitats to support foraging Hen Harrier will be low and insignificant.</p> <p>The rough grazing, marsh and improved agricultural grassland consist of vegetation communities dominated by higher plants. For ammonia concentration in air the Critical Level for higher plants is <math>3.0 \mu\text{g-NH}^3/\text{m}^3</math> as an annual mean. A lower Critical Level of <math>1.0 \mu\text{g-NH}^3/\text{m}^3</math> is used where vegetation communities are dominated by lichens and bryophytes. Such vegetation communities do not form an important component of the surrounding rough grazing, marsh and improved agricultural grassland habitats and furthermore, as noted in Section 4 above it is the sward height of these habitats that represents the principal attribute of these habitats to function as foraging habitat for Hen Harrier. A SCAIL Model of the additional adjacent modern design Poultry House has been prepared (see Appendix 1) and this has shown that at the nearest point of the SPA to the project site (i.e. within marsh habitat approximately 175m from the site) there will be no exceedance of the <math>3.0 \mu\text{g-NH}^3/\text{m}^3</math> Critical Level, while there will be a minor exceedance of the <math>1.0 \mu\text{g-NH}^3/\text{m}^3</math> Critical Level (i.e. a Critical Level of <math>1.59 \mu\text{g-NH}^3/\text{m}^3</math> at the marsh habitat is predicted).</p>
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				<p>A SCAIL Model was also completed for the nearest area of peatland habitat to the project site, approximately 1km to the south in the townland of Tournafulla (see Appendix 1). As noted above the principal component of this habitat for supporting foraging Hen Harriers is the tall dwarf shrub community, the ammonia concentration Critical Level for which is 3.0 µg-NH<sup>3</sup>/m<sup>3</sup>. The SCAIL model for this habitat receptor results in an exceedance of 0.13 µg-NH<sup>3</sup>/m<sup>3</sup> of the Lower Critical Level, while there will be no exceedance of the Higher Critical Level.</p> <p>The results of the SCAIL Models for surrounding habitat receptors within the SPA show no exceedance of the Higher Critical Level for these habitats, above which there could be a change in the vegetation community. The low levels of ammonia concentrations generated by the project during the operation phase will not have the potential to alter the community of vascular plants dominating surrounding habitats within the SPA and will not undermine their potential to function as potential foraging habitats for Hen Harrier.</p> <p>As the project is not predicted to have the potential to result in changes to the structure of surrounding habitats, it will not have the potential to result in a decrease in the breeding population of Hen Harrier as a result of deterioration in foraging habitats.</p>
2	Hen Harrier	No. Fledgling	On average >1 fledgling per pair	In the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA the main threats to nest sites have been

	fledgling success	Success	successfully raised.	<p>identified as unsuitable forest cover and turbary activity in the vicinity of the nest site. Predation has also been cited as a threat to nest sites. Of these the most relevant threats to fledgling success at established nest sites are turbary activity and predation.</p> <p>The project will not have the potential during the operation phase to result in disturbance to Hen Harrier nest sites and fledgling success as a result of turbary activity or predation.</p> <p>Fledgling success is also reliant on an adequate foraging resource for adults and fledglings during the breeding season. In light of the reasons outlined for Attribute No. 1 above the project will not have the potential to undermine the foraging potential of habitats occurring within and surrounding Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the project site.</p>
3	Habitat Extent	Area of natural and semi-natural habitat	Maintain the area of natural and semi-natural habitats used or potentially usable by notified species, within the SPA, subject to natural processes.	The assessment of Attribute No. 1 above concluded that the project and the ammonia emission generated by it during the operation will not have the potential to result in changes to the extent of foraging habitat for Hen Harrier surrounding the project site and within the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA. The emissions of ammonia will be below the Critical Level for the vascular plant species that make up these habitats and upon which Hen Harrier prey species rely for shelter.

4	Habitat Quality	To be assessed as part of SPA monitoring.	<i>No target outlined.</i>	In line with the assessment outlined for Attribute No. 1 and 3 above the operation phase of the project and the emission of ammonia to air from the project activities will not have the potential to undermine the quality of potential Hen Harrier foraging habitat surrounding the project site.

## 7.1 ASSESSMENT OF POTENTIAL EFFECTS TO THE LOWER RIVER SHANNON SAC

**Table 7.2: Site-Specific Conservation Objectives for Rogerstown Estuary SPA Special Conservation Interest Species**

Attribute No.	Attribute	Target	Assessment
<b>Lamprey Species</b>			
1	Distribution (extent of anadromy for sea lamprey)	Access to all watercourses downs to first order streams for brook and river lamprey. Greater than 75% of main stem length of rivers	There will be no reduction in species distribution given that alteration to river morphology and structures which could limit habitat accessibility will not occur as a result of the project.

		accessible from the estuary.	
2	Population structure of juveniles	At least three age/size groups present	<p>There will be no impact on the population structure of juveniles occurring within the SAC. The pathways that could conceivably affect population structure are the discharge of surface runoff from construction areas or wastewater during the operation phase. As outlined in Section 2 above the project will include the implementation of a range of measures that will avoid pollution to the River Feale downstream of the project site. During normal working conditions surface water generated at construction footprints is predicted to drain to ground in surrounding permeable hard core areas. It is expected that there will be excess surface water from the construction footprint and hard core areas only during times of excessive rainfall. Precautionary measures, such as those outlined in Section 2 above, will be put in place to ensure that any surface water runoff during such rainfall events is effectively treated prior to discharge to surrounding drainage ditches and downstream to the surface water network.</p> <p>All wastewater generated during the operation phase will be in the form of wash water from the broiler houses. All wash water is contained and recovered on site in bunded tanks. The volume of wash water generated at the project site will be low. All wash water is transported from the site and used as fertiliser on surrounding</p>

			farm land in accordance with the requirements of European Union (Good Agricultural Practice for Protection of Waters) of S.I. No. 31 of 2014. The regulations aim to ensure that the application of such fertiliser does not result in adverse effects to water quality in surrounding surface water bodies. The implementation of the prescribed measures for land spreading of fertiliser under these regulations will ensure that the wash water generated at the project site and used for fertiliser will not have the potential to result in perturbation to surrounding surface water quality.
3	Juvenile density in fine sediment	Mean catchment juvenile density of at least 2/m <sup>2</sup> for river and brook lamprey and 1/m <sup>2</sup> for sea lamprey	For the reasons outlined for Attribute No. 2 above the project will not result in any decrease in the density of juveniles in fine sediments along the River Feale.
4	Extent and distribution of spawning habitat	No decline in distribution and extent of spawning beds.	For the reasons outlined for Attribute No. 2 above the project will not result in any decline in distribution and extent of spawning beds.
5	Availability of juvenile habitat	More than 50% of sample sites positive	For the reasons outlined for Attribute No. 2 above the project will not result in any change to the availability of juvenile habitat.
<b>Atlantic Salmon</b>			
6	Distribution: extent of anadromy	100% of river channels down to second order from the estuary.	There will be no reduction in species distribution given that alteration to river morphology and structures which could limit

			habitat accessibility are not proposed.
7	Adult spawning fish	Conservation Limit consistently exceeded	For the reasons outlined for Attribute No. 2 above, the project will not result in any decline in the numbers of adult spawning fish supported by the River Feale and the Lower River Shannon SAC.
8	Salmon fry abundance	Maintain or exceed 0+ fry mean catchment wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling.	For the reasons outlined for Attribute No. 2 above, the project will not have the potential to result in any decline in the mean catchment wide abundance value of 17 salmon fry/5 min sampling supported by the River Feale and Lower River Shannon SAC.
9	Out-migrating smolt abundance	No significant decline	For the reasons outlined for Attribute No. 2 above, the project will not have the potential to result in any decline in the numbers of out-migrating smolt.
10	Number and distribution of redds	No decline in numbers or distribution	For the reasons outlined for Attribute No. 2 above, the project will not have the potential to result in any decline in the number and distribution of redds.
11	Water quality	At least Q4	For the reasons outlined for Attribute No. 2 above, the project will not have the potential to result in any decline in water quality along the River Feale that would depress the q-value of this watercourse.
<b>Otters</b>			
12	Distribution	No significant decline	The project does not occur within the buffer zone of foraging otters and is located approximately 100m from the nearest watercourses with potential to support foraging otters. The nearest point of the



			Lower River Shannon SAC is approximately 5km downstream. As such there will be no potential for the project to adversely effect the distribution of otters within the Lower River Shannon SAC.
13	Extent of terrestrial habitat	No significant decline	The extent of terrestrial habitat for otter within SACs is based upon a 10m buffer zone along river banks. The project site does not occur within this buffer zone of river banks and is located at a remote distance from the nearest point of the Lower River Shannon SAC.
14	Extent of marine habitat	No significant decline	The project will not have any potential to interfere with this attribute and target due to the remote location of marine otter habitat from the project site.
15	Extent of freshwater habitat (river)	No significant decline	For the reasons outlined for Attribute No. 2 above, the project will not have the potential to undermine this target.
16	Extent of freshwater habitat (lakes)	No significant decline	This attribute and target are not relevant to the project as no lakes occur within the catchment area.
17	Couching sites and holts	No significant decline	No couching sites or holts occur within close proximity to the project site.
18	Fish biomass	No significant decline	For the reasons outlined for Attribute No. 2 above, the project will not have the potential to undermine this target.
19	Barriers to connectivity	No significant increase	For the reasons outlined for Attribute No. 2, 12 and 13 above, the project will not have the potential to undermine this target
<b>Floating River Vegetation</b>			
20	Habitat area	Area stable or increasing, subject	For reasons outlined for Attribute No. 2 above and in light of the

		to natural processes	remote distance between the project site and examples of this habitat within the Lower River Shannon SAC there will be no potential for the project to result in the area of this habitat.
21	Habitat distribution	No decline, subject to natural processes. See map 13	For reasons outlined for Attribute No. 2 and 20 above there will be no potential for the project to result in a decrease in the distribution of this habitat.
22	Hydrological regime: river flow	Maintain appropriate hydrological regimes	For reasons outlined for Attribute No. 2 there will be no potential for the project to affect hydrological regimes of watercourses upon which this habitat relies.
23	Hydrological regime: tidal influence	Maintain natural tidal regime	The project site is located at a remote distance from the sea and will not have the potential to undermine this habitat as a result of changes to marine influences.
24	Hydrological regime: freshwater seepages	Maintain appropriate freshwater seepage regimes	For reasons outlined for Attribute No. 2 there will be no potential for the project to affect hydrological regimes in terms of freshwater seepage for examples of this habitat relies.
25	Substratum composition: particle size range	The substratum should be dominated by the particle size ranges, appropriate to the habitat sub-type (frequently sands, gravels and cobbles)	For reasons outlined for Attribute No. 2 there will be no potential for the project to affect hydrological regimes in terms of freshwater seepage for examples of this habitat relies.
26	Water quality: nutrients	The concentration of nutrients in the water column should be sufficiently low to prevent	For reasons outlined for Attribute No. 2 there will be no potential for the project to affect water quality within surrounding surface watercourses downstream of the project site.

		changes in species composition or habitat condition	
27	Vegetation composition: typical species	Typical species of the relevant habitat sub-type should be present and in good condition	For reasons outlined for Attribute No. 2 and 20 there will be no potential for the project to affect vegetation composition of examples of this habitat occurring within the Lower River Shannon SAC.
28	Floodplain connectivity	The area of active floodplain at and upstream of the habitat should be maintained	The project will not result in any effects to floodplains upon which this habitat relies.
29	Riparian habitat	The area of riparian woodland at and upstream of the bryophyte-rich sub-type should be maintained	The project will not result in any changes to riparian woodlands upstream of examples of the bryophyte-rich sub-type of this habitat.

The assessments outlined in Tables 7.1 and 7.2 above show that the project will not have the potential to undermine the achievement of the targets set out for each of the interest features of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower River Shannon SAC occurring within the sphere of influence of the project.

There will be no potential for the project to result in direct or indirect impacts to these interest features as a result of ammonia emissions during the operation phase or hydrological emissions during the construction and operation phase.

## 7.2 IN-COMBINATION EFFECTS

A review of the Limerick County Council Online Planning Enquiry System and the EPA IPCC register was completed on the 10<sup>th</sup> November 2017 to identify other planning applications or recently granted project adjacent to or downstream of the project site or other existing or recently approved projects that result in airborne emissions.

No such facilities were identified during this review. In light of the absence of other projects resulting in the release of ammonia to air there will be no potential for cumulative air pollution effects.

## 7.3 A DESCRIPTION OF HOW THE INTEGRITY OF THE SITE IS LIKELY TO BE AFFECTED BY THE PROJECT

EU Guidelines (2001) recommend as part of a Stage 2 Appropriate Assessment that a checklist of site integrity is carried out. This aids in establishing the nature of potential adverse effects to the integrity of the Rogerstown Estuary SPA as defined by the conservation objectives of special conservation interests occurring within the sphere of influence of the project.

Conservation Objectives	
Does the Project have the potential to:	
Cause delays in progress towards achieving the conservation objectives of the site	No
Interrupt progress towards achieving the conservation objectives of the site	No
Disrupt those factors that help to maintain the favourable conditions of the site	No
Interfere with the balance, distribution and density of	No

key species that are the indicators of the favourable condition of the site.	
cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	No
change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No
reduce the area of key habitats?	No
reduce the population of key species?	No
change the balance between key species?	No
reduce diversity of the site?	No
result in fragmentation?	No
result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?	No

## 7.4 A DESCRIPTION AND EVALUATION OF MITIGATION MEASURE

### 7.4.1 Best Practice Construction & Design Measures

The following design measures will be implemented during the construction phase of all works:

- A floating hydrocarbon boom and spill kit will be retained on site during all construction works.
- All plant, machinery and site operative will be restricted to a construction working area for all new structures.
- Any excess construction material shall be stored in the construction working area only and will be used for either landscaping within the project.

- Machinery will be checked and cleaned before going on site to see that there is no introduction of alien invasive plant species (e.g. Japanese knotweed) to the site.
- All construction workers will be given a tool box talk addressing the environmental topics prior to commencement of construction.
- Temporary Stockpiles will be restricted to less than 2m in height. Stockpiles will be located as far as possible from drainage ditches, mature trees, hedgerows, surface water drains and water courses.
- No re-fuelling of machinery will take place within 50m of any watercourse.
- Re-fuelling of construction equipment and the addition of hydraulic oil or lubricants to vehicles/ equipment will take place in designated bunded areas a minimum distance of 50m from surface watercourses.
- If it is not possible to bring machinery to the refuelling point, fuel will be delivered in a double-skinned mobile fuel bowser.
- A drip tray will be used beneath the fill point during refuelling operations to contain any spillages that may occur.

The following environmental protection guidelines and associated measures will be implemented during the construction phase:

- Inland Fisheries Ireland's *Requirements for the Protection of Fisheries Habitat during Construction and Development Works*.
- CIRIA (Construction Industry Research and Information Association) Guidance Documents
  - Control of water pollution from construction sites (C532)
  - Control of water pollution from linear construction projects: Technical Guidance (C648)
  - Control of water pollution from linear construction projects: Site Guide (C649)
  - Environmental Good Practice on Site (C692)

- NRA Guidance Documents
  - Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes
  - Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads
  - Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes.

The following measures will be implemented during the operation phase to reduce the potential for the project to generate ammonia:

- There will be no outdoor storage of poultry litter at the project site, and all litter will be transported directly off the farm, at batch clear out, and transported to Custom Compost.
- Maintenance of High health status maximizes animal production.
- Litter management and amendments will be implemented.
- Good flock management will be undertaken at all times.
- During winter periods when ventilation is controlled to manage heat within the broilers, the diet will be supplemented by *Yucca schidigera* extracts to reduce aerial ammonia concentrations.
- All wash water generated during the operation phase will be contained within bunded tanks and recovered as fertilizer. It will be used as land spreading fertilizer on surrounding farmland in accordance with the requirements of European Union (Good Agricultural Practice for Protection of Waters) of S.I. No. 31 of 2014.

#### **7.4.2 Likelihood of mitigation measures and environmental safeguards succeeding**

The mitigation measures and environmental safeguards outlined above for the construction phase of the project are taken from established best practice guidelines that have been successfully implemented for a wide range of project-level infrastructural developments. These measures have undergone extensive and rigorous monitoring for their effectiveness at development sites where they have previously been applied to ensure adverse environmental impacts are avoided.

The results of this monitoring and the recommendation of these measures as standard best practice guidelines is based upon their high degree of success in ensuring negative environmental impacts are avoided.

The best practice guidance that have informed the mitigation measures and environmental safeguards proposed in this assessment and that will be adhered to throughout the construction and operation of the existing Poultry Unit and the construction of an additional adjacent modern design Poultry House include:

- The Good Practice Guidance notes proposed by EA/SEPA/EHS:
- PPG1: General Guide to the Prevention of Water Pollution
- PPG4: The disposal of sewage where no Main Drainage is Available
- PPG5: Works In, Near or Liable to Affect Watercourses
- PPG10: Working at Construction and Demolition Sites.
- PPG21: Pollution Incident Response Planning
- PPG26: Dealing with Spillages on Highways
- CIRIA Environmental Good Practice on Site.
- CIRIA Control of Water Pollution from Construction Sites. Technical Guidance C648.
- CIRIA SuDS Manual Technical Guidance C697.
- Development on Unstable Land. Department of Environment (DOE), UK.

The management approach to the approach to the operation phase will ensure that no wastewater generated at the project site will be emitted to surface water courses and the Lower River Shannon SAC downstream from the project site. Dietary management will also be undertaken at the project site to reduce the levels of nutrients emitted in gaseous phases to air.



## **8.0 CONCLUSION**

Based upon the assessment outlined above and the implementation of all environmental safeguards and mitigation measures, it is concluded that the project will not have the potential to result in likely significant effects to the integrity and conservation status of European Sites occurring within the sphere of influence of the project, namely the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower River Shannon SAC.

As such the project will not have the potential to result in likely significant effects to the:

Special conservation interest species of the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA; and

Qualifying features of interest of the Lower River Shannon SAC.



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## APPENDIX 1: SCAIL RESULTS

### Results of SCAIL Model for Nearest Point of Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA to the NW of

#### Results

Scail Home | User Guide | SCAIL-Agriculture Report | SEPA/EA/NIEA/EPA Contact Details | Online Tutorial

**Content Specific Help Text**

**Site Information** STACK 'S TO MULLAGHAREIRK MOUNTAINS| WEST LIMERICK HILLS AND MOUNT EAGLE SPA

Region:	Republic of Ireland
Site Name:	STACK 'S TO MULLAGHAREIRK MOUNTAINS  WEST LIMERICK HILLS AND MOUNT EAGLE SPA
Site Code:	N/A
Designation Status:	User defined
Distance from Installation (m):	213
Receptor Type:	Fen, Marsh and Swamp
Grid Reference:	120344,128371
Met Site:	SHAN
Run Mode:	Conservative
PM <sub>10</sub> Percentile:	Average

**Installation Information**

No.	Name	No. of sources	No. of new sources	PM <sub>10</sub> (t/a)	NH <sub>3</sub> (t/a)	Odour (kOu/a)	Conc NH <sub>3</sub> (µg/m <sup>3</sup> )	Dep N (kg/ha/yr)	Dep Acid (kEq H <sup>+</sup> /ha/yr)	Conc PM <sub>10</sub> (µg/m <sup>3</sup> )	Conc Odour (Ou/m <sup>3</sup> )
1	Michael Noel	1	1	-	2.5	-	1.68	8.73	0.589	-	-

**Total Depositions/Concentrations and Exceedances**

Concentrations/Depositions and Critical Loads/Levels	NH <sub>3</sub> (µg/m <sup>3</sup> )	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H <sup>+</sup> /ha/yr)	PM <sub>10</sub> (µg/m <sup>3</sup> )	Odour (Ou/m <sup>3</sup> )
Process Contribution (PC) at receptor edge	1.68	8.70	0.590	-	-
Background concentration at receptor edge	0.91	13.95	2.03 (N:1.00(S:1.03))	-	-
<b>Predicted Environmental Concentration/Deposition (PEC)</b>	<b>2.59</b>	<b>22.65</b>	<b>2.62</b>	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Fen, Marsh and Swamp	Fen, Marsh and Swamp	-	-
<b>ALTERNATIVE CRITICAL LOAD INFO</b>					
<b>USE OWN THRESHOLDS?</b>					
% of relevant standard PC	Lower: 168% Upper: 56%	87%	n/a	-	-
% of relevant standard PEC	Lower: 259% Upper: 86%	226%	n/a	-	-
<b>EXCEEDANCE</b>	<b>Lower: 1.59</b> Upper: No exceedance	<b>12.65</b>	n/a	-	-

**Project Notes**

## Results of SCAIL Model at nearest example of Upland Heather Moorland in the townland of Tournafulla, over 1km to the south of the project site

### Results

Scail Home | User Guide | SCAIL-Agriculture Report | SEPA/EA/NIEA/EPA Contact Details | Online Tutorial

Content Specific Help Text

Site Information (STACK'S TO MULLAGHAREIRK MOUNTAINS| WEST LIMERICK HILLS AND MOUNT EAGLE SPA)

Region: Republic of Ireland  
 Site Name: STACK'S TO MULLAGHAREIRK MOUNTAINS| WEST LIMERICK HILLS AND MOUNT EAGLE SPA  
 Site Code: N/A  
 Designation Status: User defined  
 Distance from Installation (m): 1089  
 Receptor Type: Bogs  
 Grid Reference: 120545,127126  
 Met Site: SHAN  
 Run Mode: Conservative  
 PM<sub>10</sub> Percentile: Average

Installation Information

No.	Name	No. of sources	No. of new sources	PM <sub>10</sub> (t/a)	NH <sub>3</sub> (t/a)	Odour (kOus/a)	Conc NH <sub>3</sub> (µg/m <sup>3</sup> )	Dep N (kg/ha/yr)	Dep Acid (kEq H <sup>+</sup> /ha/yr)	Conc PM <sub>10</sub> (µg/m <sup>3</sup> )	Conc Odour (Ou/m <sup>3</sup> )
1	Michael Noel	1	1	-	2.5	-	0.23	1.19	0.08	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH <sub>3</sub> (µg/m <sup>3</sup> )	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H <sup>+</sup> /ha/yr)	PM <sub>10</sub> (µg/m <sup>3</sup> )	Odour (Ou/m <sup>3</sup> )
Process Contribution (PC) at receptor edge	0.23	1.20	0.081	-	-
Background concentration at receptor edge	0.90	13.95	2.03 (N:1.00 S:1.03)	-	-
<b>Predicted Environmental Concentration/Deposition (PEC)</b>	1.13	15.15	2.11	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Bogs	Bogs	-	-
ALTERNATIVE CRITICAL LOAD INFO					
USE OWN THRESHOLDS?					
% of relevant standard PC	Lower: 23% Upper: 8%	24%	n/a	-	-
% of relevant standard PEC	Lower: 113% Upper: 38%	303%	n/a	-	-
<b>EXCEEDANCE</b>	Lower: 0.13 Upper: No exceedance	10.15	n/a	-	-

Project Notes

Michael Noel O'Connor

**GUIDELINES**  
**ON THE INFORMATION**  
**TO BE CONTAINED IN**  
**ENVIRONMENTAL IMPACT**  
**ASSESSMENT REPORTS**

**DRAFT**  
**AUGUST 2017**

## ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

### The work of the EPA can be divided into three main areas:

**Regulation:** *We implement effective regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.*

**Knowledge:** *We provide high quality, targeted and timely environmental data, information and assessment to inform decision making at all levels.*

**Advocacy:** *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

## Our Responsibilities

### Licensing

We regulate the following activities so that they do not endanger human health or harm the environment:

- waste facilities (e.g. landfills, incinerators, waste transfer stations);
- large scale industrial activities (e.g. pharmaceutical, cement manufacturing, power plants);
- intensive agriculture (e.g. pigs, poultry);
- the contained use and controlled release of Genetically Modified Organisms (GMOs);
- sources of ionising radiation (e.g. x-ray and radiotherapy equipment, industrial sources);
- large petrol storage facilities;
- waste water discharges;
- dumping at sea activities.

### National Environmental Enforcement

- Conducting an annual programme of audits and inspections of EPA licensed facilities.
- Overseeing local authorities' environmental protection responsibilities.
- Supervising the supply of drinking water by public water suppliers.
- Working with local authorities and other agencies to tackle environmental crime by coordinating a national enforcement network, targeting offenders and overseeing remediation.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Prosecuting those who flout environmental law and damage the environment.

### Water Management

- Monitoring and reporting on the quality of rivers, lakes, transitional and coastal waters of Ireland and groundwaters; measuring water levels and river flows.
- National coordination and oversight of the Water Framework Directive.
- Monitoring and reporting on Bathing Water Quality.

### Monitoring, Analysing and Reporting on the Environment

- Monitoring air quality and implementing the EU Clean Air for Europe (CAFÉ) Directive.
- Independent reporting to inform decision making by national and local government (e.g. *periodic reporting on the State of Ireland's Environment and Indicator Reports*).

### Regulating Ireland's Greenhouse Gas Emissions

- Preparing Ireland's greenhouse gas inventories and projections.
- Implementing the Emissions Trading Directive, for over 100 of the largest producers of carbon dioxide in Ireland.

### Environmental Research and Development

- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

### Strategic Environmental Assessment

- Assessing the impact of proposed plans and programmes on the Irish environment (e.g. *major development plans*).

### Radiological Protection

- Monitoring radiation levels, assessing exposure of people in Ireland to ionising radiation.
- Assisting in developing national plans for emergencies arising from nuclear accidents.
- Monitoring developments abroad relating to nuclear installations and radiological safety.
- Providing, or overseeing the provision of, specialist radiation protection services.

### Guidance, Accessible Information and Education

- Providing advice and guidance to industry and the public on environmental and radiological protection topics.
- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making (e.g. *My Local Environment, Radon Maps*).
- Advising Government on matters relating to radiological safety and emergency response.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

### Awareness Raising and Behavioural Change

- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

### Management and Structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiological Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

# EXPLANATORY NOTES ON THIS DRAFT

1. Projects in respect of which the determination referred to in Article 4(2) of Directive 2011/92/EU was initiated before 16 May 2017 shall be subject to the obligations referred to in Article 4 of Directive 2011/92/EU prior to its amendment by this Directive.
2. Projects shall be subject to the obligations referred to in Article 3 and Articles 5 to 11 of Directive 2011/92/EU prior to its amendment by this Directive where, before 16 May 2017:
  - a) the procedure regarding the opinion referred to in Article 5(2) of Directive 2011/92/EU was initiated; or
  - b) the information referred to in Article 5(1) of Directive 2011/92/EU was provided.

## Article 3 of Directive 2014/52/EU

- ▲ this draft is provided to help practitioners during the transition to new regulations
- ▲ this draft of the revised Guidelines will be reviewed when the new regulations transposing Directive 2014/52/EU are available - to ensure that content is consistent with the regulations and to update specific legislative references – all references to ‘transposing legislation’ will be reviewed
- ▲ revised Advice Notes will be published after the Guidelines have been adopted and published
- ▲ an accompanying webpage will be made available after the Guidelines have been adopted and published
- ▲ external hyperlinks are shown with a blue rule below, internal links with a green rule below and links to external sources which will be available in the future with a red rule below.





# TABLE OF CONTENTS

<b>1. INTRODUCTION</b>	<b>1</b>
1.1 Introduction	1
1.2 Key Changes in the amended Directive	2
1.3 The Purpose of the Guidelines	2
1.4 Structure of the Guidelines	3
<b>2. CONTEXT AND GENERAL APPROACH</b>	<b>5</b>
2.1 Introduction	5
2.2 What is an Environmental Impact Assessment Report?	5
2.3 Overview of the EIA Process	8
2.4 Fundamental Principles	12
2.4.1 Anticipating, Avoiding and Mitigating Significant Effects	12
2.4.2 Maintaining Objectivity	13
2.4.3 Ensuring Clarity and Quality	13
2.4.4 Providing Relevant Information to Decision Makers	13
2.4.5 Facilitating Better Consultation	13
2.5 Competency of Experts	14
2.6 Consultation	14
<b>3. PREPARING AN EIAR</b>	<b>17</b>
3.1 Introduction	17
3.2 Screening (Stage 1 of 7)	19
3.2.1 INTRODUCTION	19
3.2.2 Project Type	19
3.2.3 Thresholds	19
3.2.4 Consultation on Screening	22
3.3 Scoping (Stage 2 of 7)	23
3.3.1 Overview	23
3.3.2 Participants in Scoping	25
3.3.3 Consultation about Scoping	25
3.3.4 Key Scoping Criteria	26
3.3.5 Consideration of Other Assessments	26
3.3.6 Selection of Headings Under Which to Arrange Issues	27
3.3.7 Ongoing Scoping	33
3.3.8 Design Review	33
3.4 Consideration of Alternatives (Stage 3 of 7)	34
3.4.1 Overview	34
3.4.2 'Do-Nothing' Alternative	36
3.4.3 Alternative Locations	36
3.4.4 Alternative Layouts	36
3.4.5 Alternative Designs	36
3.4.6 Alternative Processes	36
3.4.7 Alternative Mitigation Measures	36
3.4.8 Consultation about Consideration of Alternatives	37
3.5 Describing the Proposed Project (Stage 4 of 7)	37
3.5.1 Introduction	37
3.5.2 Characteristics of the Project	38
3.5.3 Description of Construction	39

3.5.4	Description of Commissioning	39
3.5.5	The Operation of the Project	39
3.5.6	Changes to the Project	39
3.5.7	Description of Other Related Projects	40
3.5.8	Level of Detail in Project Description	41
3.6	Describing the Baseline (Stage 5 of 7)	43
3.6.1	Overview	43
3.6.2	Methodology	44
3.6.3	Grouping of Baseline Information	46
3.6.4	Range and Level of Detail of Baseline Information	46
3.7	Impact Assessment (Stage 6 of 7)	47
3.7.1	Introduction	47
3.7.2	Documenting the Process	48
3.7.3	Descriptions of Effects	48
3.7.4	Impact Assessment Criteria	54
3.7.5	Assessment Methods	55
3.7.6	Interactions Between Impacts on Different Factors	56
3.8	Mitigation & Monitoring (Stage 7 of 7)	58
3.8.1	Mitigation	58
3.8.2	Monitoring	60
3.8.3	Consultation about Predicted Impacts, Mitigation & Monitoring Measures	61
3.8.4	Clarity of Mitigation & Monitoring Measures	61
3.9	Residual Impacts & Conclusions	61
3.9.1	Residual Impacts	61
3.9.2	Conclusions	62
3.10	Document Review	62
<b>4.</b>	<b>PRESENTING THE INFORMATION IN AN EIAR</b>	<b>63</b>
4.1	Content	63
4.2	Structure	64
4.3	Language, Terms & Editorial Notes	64
4.4	Appendices	65
4.5	Size	65
4.6	Non-Technical Summary	66
4.7	Presentation / Media	67
<b>5.</b>	<b>NEXT STEPS IN EIA PROCESS</b>	<b>68</b>
5.1	Scrutiny & Consent	68
5.2	Monitoring & Enforcement	69
	<b>APPENDIX I – GLOSSARY OF TERMS</b>	<b>71</b>
	<b>APPENDIX II – KEY CHANGES INTRODUCED BY DIRECTIVE 2014/52/EU</b>	<b>77</b>

## LIST OF FIGURES AND TABLES

Figure 2.1	Key Stages in the preparation of an EIAR and the EIA Process	10
Figure 2.2	The Position of an EIAR within the EIA Process	11
Figure 3.1	EIAR Contents in Sequence	18
Figure 3.2	Screening	21
Figure 3.3	Scoping – Checklist for Assessors	24
Figure 3.4	Consideration of Alternatives in an EIAR	35
Figure 3.5	Chart showing typical classifications of the significance of impacts	53
Figure 3.6	Sample Matrix to show Interactions between Factors	57
Figure 3.7	Strategies for Identification of Appropriate Mitigation Measures leading to a decision to proceed with the project	60
Figure 5.1	Monitoring, Mitigation and Enforcement	70
Table 3.1	Sample organisation of headings and topics to address issues arising for each prescribed environmental factor	28
Table 3.2	Typical Standards of Descriptions of Baseline Data for use in an EIAR	45
Table 3.3	Descriptions of Effects	50
Table 3.4	Checklist for Information required to describe effects	55

# ACKNOWLEDGEMENTS

▲ To be added in final copy.

# 1. INTRODUCTION

## 1.1 INTRODUCTION

The Environmental Protection Agency is required by the EPA Act 1992 as amended, under which it was established, to:

‘Prepare Guidelines on information to be contained in environmental impact statements.’

The Act goes on to state that:

‘Regard shall be had, in the preparation of an environmental impact statement in respect of development to which this section applies’ to these Guidelines and

‘A competent authority to which an environmental impact statement is submitted in respect of development to which this section applies shall, in considering the said statement, have regard’ to these Guidelines.

Since the first *Draft Guidelines on the information to be contained in Environmental Impact Statements* were produced in 1995<sup>1</sup>, Environmental Impact Assessment (EIA) has come to play a central role in decision-making. It features heavily at oral hearings before An Bord Pleanála<sup>2</sup> and has had a high rate of appearance in European Court of Justice proceedings, while an increasing number of judicial reviews<sup>3</sup> seek to contest the adequacy of the EIA process for projects. EIA has become more prominent in relation to other consent processes such as Waste Licensing, Forestry, Agriculture, Integrated Pollution Control Licensing, Industrial Emissions Licensing and Waste Water Discharge Licensing. This background points to the importance of having authoritative and agreed standards for the information that should be available to those involved in EIA.

In July 2004, regulations transposing the Strategic Environmental Assessment Directive (2001/42/EC) introduced requirements for environmental assessment of certain plans and programmes.<sup>4</sup> This had significant implications for the extent to which EIA needed to assess aspects such as cumulative effects and alternatives.

Furthermore, there are increased social and legal<sup>5</sup> emphases on the need for meaningful public participation in decisions relating to environmental issues. In this context it is more important than ever to ensure that information is available in a format that is clear, concise and accessible to the greatest number of people – and certainly to a wider audience than the professional experts and officials who are involved in EIA.

The revision of the Guidelines was carried out by CAAS Ltd in close collaboration with a working group convened by the EPA. This group was chaired by the Agency and comprised members of a number of Government Departments, institutes and agencies as listed in the Acknowledgements (preceding this section). This group met at key stages to review the work-in-progress, to discuss emerging issues, to offer comments and to give direction to CAAS.

The publication of the Guidelines is timed to follow the transposition deadline of 16 May 2017 set down in *Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment*. The Guidelines need to be useful and relevant over a period of time during which related Directives, regulations, legal interpretations, specialist guidance and practice

1 The first Guidelines were produced (as draft) in 1995. They were updated and published in 2002.

2 for the purposes of planning consent procedures

3 Public decisions made by administrative bodies and the lower courts may be judicially reviewed by the High Court. In a judicial review the court is not concerned with the merits of the decision but rather with the lawfulness of the decision-making process, that is, how the decision was made and the fairness of it. (See [www.citizensinformation.ie](http://www.citizensinformation.ie) for more information.)

4 Planning and Development (Strategic Environmental Assessment) Regulations 2004 and European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004

5 ref. [Aarhus Convention](#)

are liable to change. Comprehensive lists of all relevant regulations, case law, etc are avoided. Instead key examples are referred to, where particularly significant.

The preparation of these updated Guidelines has involved extensive consultation. Participants in this consultation included government departments, national agencies, local government, non-governmental organisations, members of the public, developers and bodies representing various professional, industrial and sectoral groups. While many suggestions were made, there was a consensus on the need to ensure that the Guidelines<sup>6</sup> would be clear and concise to provide practical and specific guidance.

**Where these Guidelines refer to the 'amended Directive' this means the codified Directive 2011/92/EU as amended by Directive 2014/52/EU. An *informal consolidated version of 2011/92/EU as amended by 2014/52/EU is provided by the Commission. This is a useful reference document however it does not have legal standing.***

## 1.2 KEY CHANGES IN THE AMENDED DIRECTIVE

The amended Directive uses the term Environmental Impact Assessment Report for what was formerly referred to in Irish legislation as an Environmental Impact Statement. These Guidelines use the new term and its acronym; EIAR.

The key changes introduced by the amended Directive and which are relevant to the information to be contained in an EIAR are described in Appendix II. These show that compliance with the amended Directive requires nothing less than was previously required.

## 1.3 THE PURPOSE OF THE GUIDELINES

The Guidelines have been drafted with the primary objective of improving the quality of EIARs with a view to facilitating compliance (with the Directive). By doing so they contribute to a high level of protection for the environment through better informed decision-making processes. They are written with a focus on the obligations of developers<sup>7</sup> who are preparing EIARs. This includes EIARs for all types of projects<sup>8</sup> covered by the Directive. The Guidelines are also intended to provide all parties in the EIA process, including competent authorities (CAs)<sup>9</sup> and the public at large, with a standard to measure whether EIARs are fit for their purpose or not. This means providing adequate and relevant information to inform decisions about whether to grant or refuse permission.

The Guidelines emphasise the importance of the methods used in the preparation of an EIAR to ensure that that the information presented is adequate and relevant.

6 for the remainder of this document the term 'the Guidelines' is used as an abbreviation of the full title of the 'Guidelines on the information to be contained in Environmental Impact Assessment Reports'.

7 the term developers is used to refer to project proponents of all types across all relevant sectors, e.g. industry, infrastructure, housing and agriculture

8 ref. [section 2.1](#)

9 ref. [Glossary](#)

Data and information included by the developer in the environmental impact assessment report, in accordance with Annex IV to Directive 2011/92/EU, should be complete and of sufficiently high quality.

**Recital 32 of  
Directive  
2014/52/EU**

The Guidelines will assist all parties who contribute to deciding what the focus of the EIAR should be (i.e. scoping<sup>10</sup>). This should improve clarity on the adequacy of concise EIARs that concentrate on the likely significant effects. In turn, this should also help to reduce the time, effort and expense required to prepare and evaluate EIARs. More importantly it should make the overall process clearer and easier to understand and should make it easier for the public to participate.

Adherence to the Guidelines will result in better environmental protection by ensuring that the EIA process identifies effects early and accurately. This will better inform the decision-making processes. It will also help to ensure that projects fit better with their physical, biological and human surroundings. This, in turn, contributes to improved protection of the environment, which is the objective of the EIA Directive.

These Guidelines should not be confused with the *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*<sup>11</sup>. Those Guidelines relate to the responsibilities of planning authorities and the Bord as set out in the Planning Act.

It should be noted that it is the responsibility of the applicant or their agent(s) to have up-to-date knowledge of the case law and regulations that are applicable to their proposal.

## 1.4 STRUCTURE OF THE GUIDELINES

This document – the *Guidelines on the information to be contained in Environmental Impact Assessment Reports* - concentrates on the principles and associated practice of preparing EIARs. It is a statutory document that should be regarded by all relevant parties – as set out in section 1.1 above.

Following this Introduction, the document is organised into three parts to provide guidance on:

1. The role of EIARs in the EIA process and fundamental considerations in the preparation of an EIAR, including; consideration of alternatives, avoidance of adverse effects, mitigation and monitoring, provision of relevant information, public participation and objectivity.

10 ref. [section 2.3](#)

11 Department of the Environment, Community and Local Government, 2013



2. The key activities involved in the preparation of an EIAR, namely screening, scoping, consultation, consideration of alternatives, establishing the baseline, impact assessment, impact mitigation and assessing residual impacts.
3. Guidance on the presentation of information.

This document contains links to specific legal and other relevant information that is available elsewhere. A dedicated online [web page](#)<sup>12</sup> provides further onward links to relevant information, including information on relevant Directives and legislative material.

The information provided in the *Advice Notes for preparing Environmental Impact Assessment Reports*<sup>13</sup> provides greater detail by way of practical guidance on individual environmental factors and on the likely ranges of effects caused by different project types. The Advice Notes is a non-statutory document which goes beyond the requirements of the EPA Act. The provision of Section 72 (3)(b) of the EPA Act does not apply to the Advice Notes.

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12 [webpage](#) (url to be added when available - after transposition)

13 The current [Advice Notes](#) on current practice (in the preparation of Environmental Impact Statements) are available on the EPA website. An updated version will be made available after these Guidelines have been finalised.

## 2. CONTEXT AND GENERAL APPROACH

### 2.1 INTRODUCTION

Before commencing it is important to clarify two terms. EIA stands for the *process* of Environmental Impact Assessment. The Environmental Impact Assessment Report (EIAR) is the principal *document* that the EIA process is based on. These two terms are described below, separately and in detail.

As stated in section 1, the primary purpose of the Guidelines is to set out what information needs to be contained in an EIAR as well as the methods used in preparing it. However, as EIARs are an integral part of the EIA process it is important for those preparing these reports to be familiar with the process. This helps all involved to understand where the information presented in an EIAR comes from, why it is included and what the purpose of the EIAR is.

It is important to note that details of processes, roles, titles and terminology vary under different pieces of legislation. For the purposes of the Guidelines, the term *project* is generally used to encompass the terms *development*, *works* and *activity*, as used in the relevant regulations.<sup>14</sup>

The Guidelines advise on general principles and methods only. All parties to the EIA need to take responsibility for being aware of requirements of the legislation pursuant to which the EIAR is being prepared.

This section gives an overview of the EIA process and explains the role that an EIAR plays in it.

### 2.2 WHAT IS AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT?

An EIAR is defined in the EIA regulations<sup>15</sup> as:

‘A statement of the effects, if any, which proposed development, if carried out, would have on the environment.’

The EIAR is prepared by the developer and is submitted to a CA as part of a consent process. The CA uses the information provided to assess the environmental effects of the project and, in the context of other considerations, to help determine if consent should be granted. The information in the EIAR is also used by other parties to evaluate the acceptability of the project and its effects and to inform their submissions to the CA.

The EIAR consists of a systematic analysis and assessment of the potential effects of a proposed project on the receiving environment. The amended EIA Directive prescribes a range of environmental factors which are used to organise descriptions of the environment and

14 These are the terms used for projects which are subject to EIA requirements under the legislation including Planning and Development, Foreshore and Industrial Emissions legislation and the EPA Act.

15 EIA [Regulations](#) (url for new regulations to be added following transposition)

these factors must be addressed in the EIAR. These are listed below. The EIAR should be prepared at a stage in the design process where changes can still be made to avoid adverse effects. This often results in the modification of the project to avoid or reduce effects through redesign.

**Article 3(1) of amended Directive**

1. The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:
  - a) population and human health;
  - b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
  - c) land, soil, water, air and climate;
  - d) material assets, cultural heritage and the landscape;
  - e) the interaction between the factors referred to in points (a) to (d).

The Directive describes what an EIAR is to contain, as follows:

**Article 5(1) of amended Directive**

- 'the developer shall include at least:
- a) a description of the project comprising information on the site, design, size and other relevant features of the project;
  - b) a description of the likely significant effects of the project on the environment;
  - c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
  - d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;
  - e) a non-technical summary of the information referred to in points (a) to (d); and
  - f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.'

Clear, concise, unambiguous information is essential throughout an EIAR. A systematic approach, standard descriptive methods and the use of replicable assessment techniques and standardised impact descriptions contribute to ensuring that all likely significant effects are adequately considered and clearly communicated.

While these Guidelines follow the amended Directive by using the term Environmental Impact Assessment Report (EIAR), the term Environmental Impact Statement (EIS) will continue to appear in other guidelines and related documents until such time as those documents are updated.

It should also be noted that the *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* refer to the consent authority's own report on the EIA of the project as an 'Environmental Impact Assessment Report'. Until those Guidelines are updated it will be important to recognise and differentiate between different usages of the term Environmental Impact Assessment Report.

**The report on the environmental impact assessment prepared by or on behalf of the developer has been referred to in the Irish legislation and previous versions of these Guidelines as an Environmental Impact Statement (EIS). Directive 2014/52/EU introduces the term Environmental Impact Assessment Report (EIAR).**

## 2.3 OVERVIEW OF THE EIA PROCESS

EIA is a process for anticipating the effects on the environment caused by a project. It is defined in the amended Directive as follows:

### Article 1(2)(g) of amended Directive

‘Environmental impact assessment means a process consisting of:

- i) the preparation of an environmental impact assessment report by the developer, as referred to in Article 5(1) and (2);
- ii) the carrying out of consultations as referred to in Article 6 and, where relevant, Article 7;
- iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;
- iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (iii) and, where appropriate, its own supplementary examination; and
- v) the integration of the competent authority’s reasoned conclusion into any of the decisions referred to in Article 8a.’

EIA contributes to the environmental basis for the decision-making process. It is integrated into consent processes. This helps to ensure that consent decisions are made in knowledge of the environmental consequences of the project.

Figures [2.1](#) and [2.2](#) illustrate how EIA is a systematic analysis of the proposed project in relation to the existing environment during a consent process.

EIA usually commences at the project design stage where it is decided whether EIA is required or not (screening). If EIA is required, then the scope of the EIAR is established (scoping), after which the EIAR is prepared as part of the consent application.

Where significant effects are identified during the preparation of the EIAR, it may be possible for these to be avoided or reduced during the design process. The analysis of effects can also contribute to environmental protection by identifying mitigation measures – such as process improvements, for example.

After the developer applies for consent, the CA examines the EIAR, circulating it to statutory consultees while also making it available to the public. In addition to its own consideration of the information presented in the EIAR, the CA takes account of other environmental information submitted by the applicant, certain authorities<sup>16</sup> and the public during the formal consent process. The CA then makes

its decision to refuse or grant permission or to seek additional information, having regard to the information contained in the EIAR, among other considerations. The consent includes:

any environmental conditions attached to the decision, a description of any features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment as well as, where appropriate, monitoring measures.

**Article 8a(1)(b) of amended Directive**

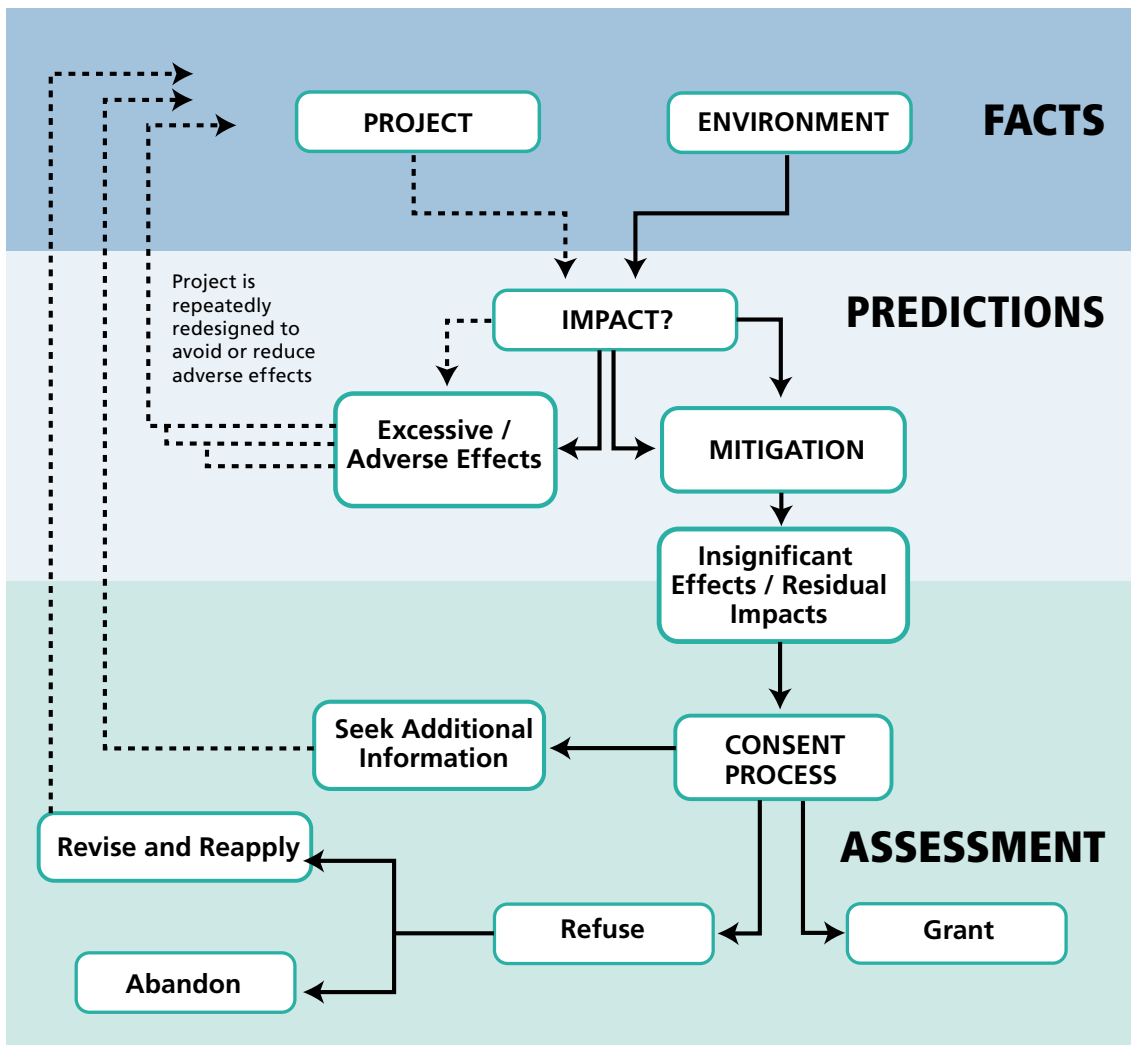
Adverse effects identified in the EIAR can also be used as reasons for a decision to refuse consent.

The consent decision is a key milestone which marks the end of the formal EIA process. The implementation of mitigation measures and any monitoring measures contained in the EIAR and consent decision continues after the formal EIA process is complete. This can happen during the construction, operation and, where relevant, the decommissioning stages of a project.

35. Member States should ensure that mitigation and compensation measures are implemented, and that appropriate procedures are determined regarding the monitoring of significant adverse effects on the environment resulting from the construction and operation of a project, inter alia, to identify unforeseen significant adverse effects, in order to be able to undertake appropriate remedial action.

**Recital 35 of Directive 2014/52/EU**

**Also ref Article 8a(1)(b) of amended Directive (above)**



This diagram illustrates that preparation of an EIA is a process with several clear and distinct stages. The first stage consists of a compilation of facts – i.e. the description of the existing environment and the description of the proposed project. The second stage consists of predictions of likely effects – this may be carried out a few times as the design is improved to eliminate excessive adverse effects. The final stage consists of the assessment of the environmental effects as part of a consent process which may decide to grant, condition, refuse or seek additional information.

Figure 2.1 Key Stages in the preparation of an EIA and the EIA Process

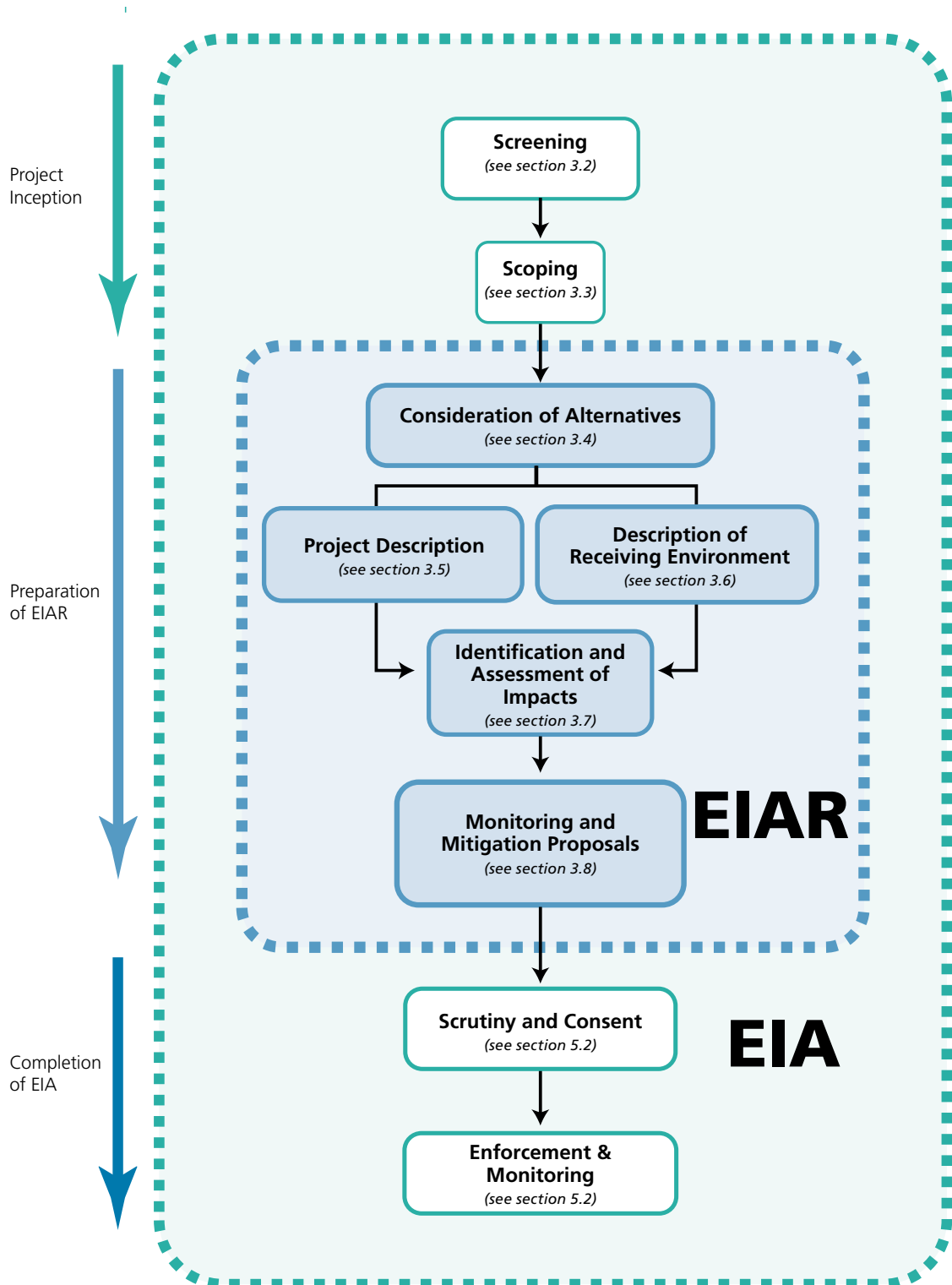


Figure 2.2 The Position of an EIAR within the EIA Process



## 2.4 FUNDAMENTAL PRINCIPLES

EIA provides a system of sharing information about the environment which enables effects to be foreseen and prevented during the design and consent stages. This protects the environment and informs decision-making.

The fundamental principles to be followed when preparing an EIAR are:

- ▲ Anticipating, avoiding and reducing significant effects
- ▲ Assessing and mitigating effects
- ▲ Maintaining objectivity
- ▲ Ensuring clarity and quality
- ▲ Providing relevant information to decision makers
- ▲ Facilitating better consultation.

### 2.4.1 ANTICIPATING, AVOIDING AND MITIGATING SIGNIFICANT EFFECTS

Throughout the EIA process anticipation of effects is the most effective means of avoiding adverse effects. Anticipation works best when applied in the earliest stages of a project. This involves forming preliminary opinions, usually in the absence of complete data on the approximate magnitude, character, duration and significance of the likely effects.

Relevant experience and expertise are particularly helpful for early anticipation of effects. The use of relevant guidance material, such as the material provided in these Guidelines and in the accompanying Advice Notes<sup>17</sup>, can also be helpful for this early anticipation of effects.

Then, once effects are anticipated, potential ways to avoid them are explored. Preliminary opinions are shared as early as possible with the developer and the design team to help them to modify proposals so that adverse effects are avoided or minimised.

Impact avoidance is principally achieved by consideration of alternatives<sup>18</sup>. Where significant adverse effects are identified then alternative options are identified and evaluated. The objective is to adopt the combination of options that presents the best balance between avoidance of adverse environmental effects and achievement of the objectives that drive the project.

Alternatives may be identified at many levels and stages during the evolution of a project, from project concepts and site locations, through site layouts, technologies or operational plans and on to mitigation and any monitoring measures. Alternatives that are available for consideration at the earlier stages in the evolution of a project often represent the greatest potential for avoidance of adverse effects.

At its most effective, avoidance of effects can lead to an EIAR which predicts 'no significant adverse effects'. To avoid misinterpretation of this statement it is very important for the EIAR to provide transparent and objective evidence of the evaluation and iterative decision-making processes which led to the adoption or selection of the final project configuration.

Assessment during the project design<sup>19</sup> typically involves a process of repeated steps, each involving design and re-design to try to get the best fit with a wide range of environmental factors. Each stage of the conception of the project is assessed, with questions such as 'is this the best site/route?', 'is this the best way to build this?' or 'is this the appropriate technology?' asked from the beginning until the design is completed. These stages will usually need to take account of a range of environmental issues, asking questions such as 'is this effect on this receptor significant or not?'

17 ref. [foonote 13](#)

18 ref. [section 3.4](#)

19 In this context design refers to assessment by the developer rather than by the CA.

An effective way of achieving this is to maintain a dialogue between designers and competent experts throughout the design process with the designers adjusting the design in response to assessment by the specialists. The EIAR, particularly in the section describing the consideration of alternatives, records the key outcomes of these explorations.

#### 2.4.2 MAINTAINING OBJECTIVITY

Objectivity has two key components. The first is derived from the rigour of the assessment and analysis. This ensures that replicable work based on high quality scientific information is carried out using recognised methods that are presented in a fully transparent manner. The second is to ensure that credibility of the EIAR is not undermined by any perception of bias or subjectivity in assessments by experts lacking appropriate competency, objectivity or independence.

#### 2.4.3 ENSURING CLARITY AND QUALITY

Clear, concise, unambiguous communication is essential throughout an EIAR. A systematic approach, standard descriptive methods and the use of replicable assessment techniques and standardised impact descriptions must be adopted to ensure that all likely significant effects are adequately considered and clearly communicated.

Adherence to the process, structure and content set out in the Directive ensures a systematic approach that is transparently supported by evidence supplied by competent experts throughout. The structure of clearly separating data (descriptions of the receiving environment and of the project) from predictions (impacts and mitigation measures) facilitates the CA in their assessment of the likely conformity of effects with accepted standards and objectives.

#### 2.4.4 PROVIDING RELEVANT INFORMATION TO DECISION MAKERS

An EIAR is prepared before a consent decision is made. This enables the CA to reach a decision in the full knowledge of the project's likely significant impacts on the environment, if any. Information should be relevant, complete and legally compliant<sup>20</sup>. It should also be appropriate to the requirements of the consent procedure and the scale of the project. The information should be systematically presented and assessed.

#### 2.4.5 FACILITATING BETTER CONSULTATION

Good practice in preparing EIARs involves clear and focussed consultation with various parties at key stages in the assessment process.

Compliance with the Aarhus Convention requires that the structure, presentation and the non-technical summary of the EIAR, as well as the arrangements for public access, all facilitate the dissemination of the information contained in the EIAR. The core objective is to ensure that the public is made as fully aware as possible of the likely environmental impacts of projects prior to a decision being made by the CA.

Consultation is discussed in more detail in [section 2.6](#).

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20 ref. legislative references on [webpage](#) (url to be added following transposition)

## 2.5 COMPETENCY OF EXPERTS

The Directive requires that:

### Article 5(3)(a) of amended Directive

- a) the developer shall ensure that the environmental impact assessment report is prepared by competent experts;

It does not offer a definition of what would be considered competent expertise. Guidance and/or regulation on this may emerge during the period of use of the Guidelines. Courts may also decide on a definition over time. In the meantime, it may be taken that the requirement for expertise on behalf of the developer and the CA is related to the significance, complexity and range of effects that an EIAR needs to assess. This will be reflected by an appropriate combination of experience, expertise and knowledge. It should be characterised by an appropriate knowledge of the latest and most appropriate scientific methodology and assessment procedures and by correct interpretation of data.

Competence includes an understanding of the legal context of the decision-making process and may often require a range of experts to cover the full range of the complexity of an environmental factor such as biodiversity, where the expertise of many disciplines may intersect.

### Recital (33) of Directive 2014/52/EU

Experts involved in the preparation of environmental impact assessment reports should be qualified and competent. Sufficient expertise, in the relevant field of the project concerned, is required for the purpose of its examination by the competent authorities in order to ensure that the information provided by the developer is complete and of a high level of quality.

The introduction to the EIAR should include a list of the experts who have contributed to an EIAR, showing which parts of the EIAR they have worked on, their qualifications, experience and any other relevant credentials. This facilitates an assessment of the competency in the team who have prepared the EIAR.

## 2.6 CONSULTATION

Consultation is a key element of each stage of the EIA process. The requirement for consultation is included in the definition of EIA in the Directive<sup>21</sup> and there are procedures for statutory consultation at various stages in the EIA process. These are detailed in the relevant transposing legislation<sup>22</sup>.

While it is generally best to commence pre-application consultation as early as possible, it is not obligatory during the preparation of an EIAR and the extent to which it is carried out is decided by the applicant and their team on a case by case basis. The benefits of early consultation include<sup>23</sup>:

- 21 Article 1(2)(g)(ii) of amended Directive (ref. [section 2.3](#))  
 22 ref. legislative references on [webpage](#) (url to be added following transposition)  
 23 Adapted from *A handbook on environmental impact assessment Guidance for Competent Authorities, Consultees and others involved in the Environmental Impact Assessment Process in Scotland*, Scottish Natural Heritage, 4<sup>th</sup> Edition, 2013

- ▲ Early identification and therefore more focused consideration of significant impacts, a more focused EIAR, and a more focused scoping process.
- ▲ Reduction in consultees' time and/or input required later in the process.
- ▲ Early indication of the need for detailed survey work, especially relating to data that is required over several seasons.
- ▲ Early indication of the information required to assess the application in a manner that is proportionate and appropriate in defining the likely significant impacts on the environment.
- ▲ It allows for early understanding of the potential concerns of the consultees, and encourages greater understanding of the project and the preparation of the EIAR, by the consultees and decision maker.
- ▲ It allows for the identification of opportunities to factor mitigation measures into the design of the proposal.

Most consultation carried out for the preparation of the EIAR takes place with the CA, other authorities<sup>24</sup>, specialist agencies and those parties that are most likely to be directly affected. Consultation by a developer with the local population can be helpful in identifying potentially significant concerns and issues. Consultation by a developer with the wider public during preparation of an EIAR tends to be used where the affected population may be very large and/or difficult to identify. To be of value, such consultation needs to be allocated sufficient time and be expertly structured to ensure clarity and consistency. The *non-technical summary* of an EIAR can be an effective tool in explaining the content of the EIAR to the wider public and facilitating their involvement in the statutory consultation during the consent determination stage.

It is important to distinguish between EIA related consultation – which gathers information – and the exercise of canvassing for project support, which often precedes or accompanies applications for permission. Where a proposer carries out the latter type, they should keep it clearly separate from consultation for the EIAR which should maintain an objective and factual approach.

During the statutory consent determination process, the CA is obliged to consult with certain authorities. Consultation by an applicant with these authorities (if they offer such a service) before formal submission for consent helps the applicant to pre-empt issues which may be raised at this stage and to address them beforehand.<sup>25</sup>

The key stages at which consultation regarding the information to be contained in an EIAR may be carried out are detailed in section 3.

24 ref. [footnote 16](#)

25 see [section 3.3.3](#)

## 2.6.1 TRANSBOUNDARY CONSULTATION

### Article 7(4) of amended Directive

The Member States concerned shall enter into consultations regarding, inter alia, the potential transboundary effects of the project and the measures envisaged to reduce or eliminate such effects and shall agree on a reasonable time- frame for the duration of the consultation period. Such consultations may be conducted through an appropriate joint body.

In the case of an EIAR for any cross-border project or for any project that is likely to cause significant transboundary effects, contact with the relevant authorities in Northern Ireland or other Member States should be made. This will establish a consultation framework to consider and address these effects.

## 3. PREPARING AN EIAR

### 3.1 INTRODUCTION

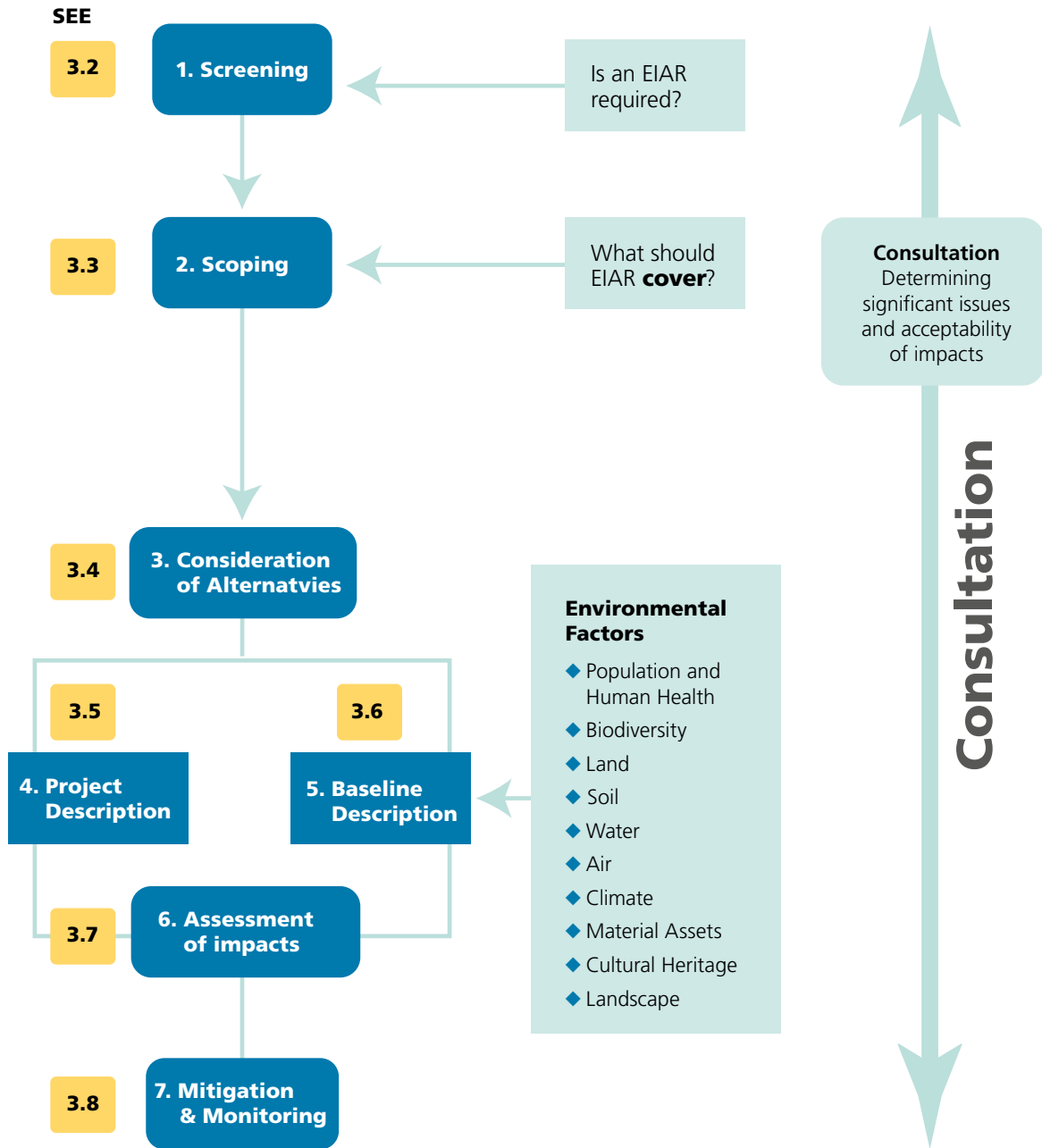
This section provides guidance on how to carry out each of the stages of work that are required to prepare an EIAR that complies with the relevant legislation<sup>26</sup>.

The schematic below details the steps involved in the preparation of an EIAR. The steps are largely sequential, but not necessarily consecutive and some elements may be carried out throughout.

The first step, *screening*, is to establish if an EIA is required or not. Screening is discussed in the next section.

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26 ref. legislative references on [webpage](#) (url to be added following transposition)



The information that must be included in an EIAR is shown as seven steps in sequence in the diagram above. The environment is described under a number of specific headings that are shown on the right. Adherence to this general sequence and structure helps ensure an objective and systematic approach.

Figure 3.1 EIAR Contents in Sequence

## 3.2 SCREENING (STAGE 1 OF 7)

### 3.2.1 INTRODUCTION

The start of the EIA process involves deciding whether an EIA needs to be undertaken or not. An initial determination establishes whether the proposal is a project as understood by these Guidelines or not, i.e. does it comprise *development, works or activity*<sup>27</sup>, as defined in the relevant legislation.

The decision-making process then proceeds by examining the relevant legislation<sup>28</sup> which transposes Annexes I and II of the amended Directive. If this does not provide a clear screening outcome then the nature and extent of the project and the site and of the types of potential effects are examined. The totality of the project is considered<sup>29</sup>, including off-site and secondary projects as well as indirect, secondary and cumulative impacts<sup>30</sup>.

Figure 3.2 below provides a step-by-step guide of the main steps involved in screening.

### 3.2.2 PROJECT TYPE

The first step is to examine whether the proposal is a *project* as understood by the Directive<sup>31</sup>. Projects requiring environmental impact assessment are defined in Article 4 and set out in Annexes I and II of the Directive<sup>32</sup>. If a proposed project is not of a type covered by the Directive, there is no statutory requirement for it to be subject to environmental impact assessment. However, this is a complex issue and regard should be had to the Directive's 'wide scope and broad purpose'<sup>33</sup>. In determining if the proposed project is of a type covered by the Directive it may be necessary to go beyond the general description of the project and to consider the component parts of the project and/or any processes arising from it. If any such parts or processes are significant (e.g. construction of a significant road, deforestation or peat extraction) and, in their own right, fall within a class of development covered by the Directive, the proposed project as a whole may fall within the requirements of the Directive. The Commission document on *Interpretation of definitions of project categories of annex I and II of the EIA Directive* provides useful guidance on project interpretation. Where doubt remains, consultation with the CA may be useful.<sup>34</sup>

### 3.2.3 THRESHOLDS<sup>35</sup>

The next screening step is to determine whether the project exceeds a specific threshold. Thresholds are set out in the legislation.<sup>36</sup> The only types of projects to which thresholds do not apply are types that are considered to always be likely to have significant effects; a crude oil refinery for example.

Where a project is of a specified type but does not meet, or exceed, the applicable threshold then the likelihood of the project having significant effects on the environment needs to be considered. Both the adverse and beneficial effects are considered.<sup>37</sup> This is done by reference to the criteria specified in Annex III of the amended Directive.

27 These are the terms used for projects which are subject to requirement for EIAs under the Planning and Development, Foreshore and Industrial Emissions legislation, including the EPA Act (ref. [section 1.1](#)).

28 To be reviewed after transposition

29 ref. [section 3.5](#)

30 ref. [Indirect, Secondary and/or Cumulative Impacts](#)

31 ref. Article 1(2)(a) of Amended Directive

32 including but not limited to those projects specified in [Schedule 5 of the Planning and Development Regulations, 2001](#)

33 [Interpretations of definitions of project categories of annex I and II of the EIA Directive](#), EC, 2015

34 ref. [section 3.2.4](#)

35 To be reviewed after transposition (paragraphs 1-3) (while considering Article 1(4) of Directive 2014/52)

36 ref. [webpage](#) (url to be added following transposition)

37 Except in the case of project type 13(a) as listed in Annex II of the amended Directive. This covers project changes and extensions and requires EIA only where adverse effects are predicted.



**Recital (27) of  
Directive  
2014/52/EU**

The CA is also obliged to screen applications for consent for sub-threshold projects by reference to these criteria. Detailed guidance on this is given in the guidance for CAs regarding sub-threshold development.<sup>38</sup> While that guidance is intended for consent authorities<sup>39</sup>, the same considerations are relevant to developers or any parties involved in the EIA process.

The screening procedure should ensure that an environmental impact assessment is only required for projects likely to have significant effects on the environment.

The project needs to be considered in its entirety for screening purposes. This means that other related projects need to be identified and assessed at an appropriate level of detail. This will identify the likely significance of cumulative and indirect impacts thus providing the CA with a context for their determination.

Dividing the project into separate parts so that each part is below an applicable threshold needs to be avoided. This is project-splitting and is not compliant with the Directive.

**CASE LAW**

In Case C-142/07 *Ecologistas en Acción-CODA v Ayuntamiento de Madrid*, (2008) the Court of Justice of the European Union (CJEU) held that by splitting most of the the project into sections that were less than 5 km (the threshold above which national legislation required EIA), there was a failure to consider cumulative and indirect impacts of the project.

The Judgement in this case stated 'The objective of the EIA Directive cannot be circumvented by the splitting of projects. Where several projects, taken together, may have significant effects on the environment within the meaning of Article 2(1), their environmental impact should be assessed as a whole. It is necessary to consider projects jointly in particular where they are connected, follow on from one another, or their environmental effects overlap.'<sup>40</sup>

The whole project needs to be described.

Off-site or secondary projects also need to be considered at screening stage. These are discussed in [section 3.5.7](#), including reference to case-law.

Applications for expansions of relevant projects should also be screened with regard to specified thresholds.<sup>41</sup>

38 [Environmental Impact Assessment \(EIA\) Guidance for Consent Authorities regarding Sub-threshold Development](#), Department of the Environment, Heritage and Local Government, 2003

39 including *competent* authorities

40 Case C-142/07 *Ecologistas en Acción-CODA v Ayuntamiento de Madrid*, 2008

41 ref Annex I(24) & Annex II(13) of amended Directive and transposing legislation ([webpage url](#) to be added following transposition)

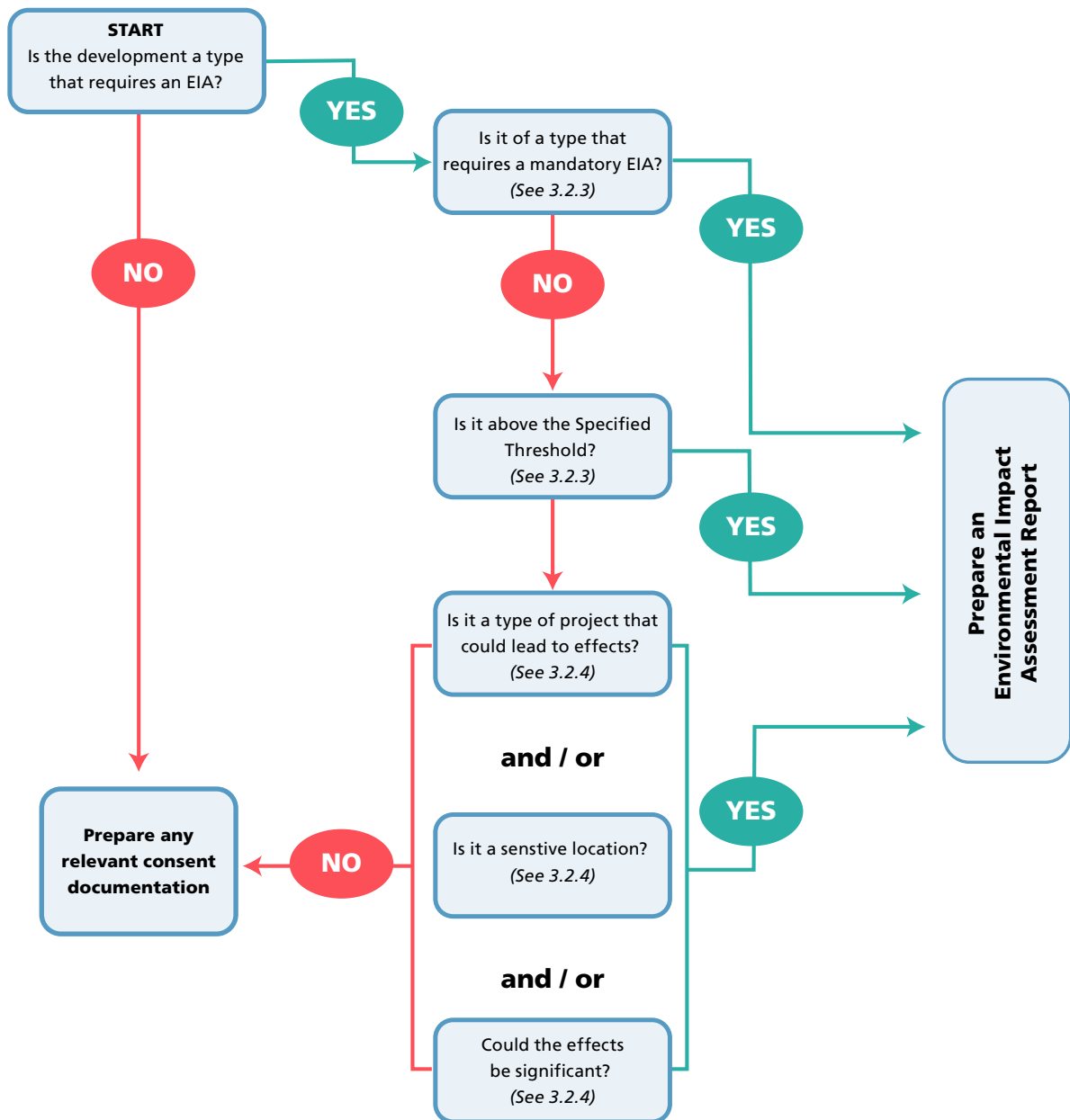


Figure 3.2 Screening

### 3.2.4 CONSULTATION ON SCREENING

Where a developer wishes to consult with the CA about screening, then the Directive specifies the following as information to be provided by the developer:

#### Annex II A of amended Directive

'A description of the project, including in particular:

- a) a description of the physical characteristics of the whole project and, where relevant, of demolition works;
  - b) a description of the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected.
1. A description of the aspects of the environment likely to be significantly affected by the project.
  2. A description of any likely significant effects, to the extent of the information available on such effects, of the project on the environment resulting from:
    - a) the expected residues and emissions and the production of waste, where relevant;
    - b) the use of natural resources, in particular soil, land, water and biodiversity.

The criteria of Annex III shall be taken into account, where relevant, when compiling the information in accordance with points 1 to 3.'

On receipt of a screening consultation request, the authority may consult with certain other authorities<sup>42</sup> with responsibility for environmental matters, may seek expert advice, may liaise with other CAs who have made decisions on similar projects or may refer to relevant guidance. For example, in the case of strategic infrastructure projects on sites that are licensable by the EPA under the EPA Act<sup>43</sup> and Waste Management Act<sup>44</sup>, the planning authority is obliged to consult with the EPA and the EPA must give its screening opinion.

When consulting at this stage, the applicant will often outline the reasons why they consider an EIA is not required rather than simply asking for an opinion without offering a preliminary opinion. If they identify that significant effects are likely under some factors but that having regard to the prescribed screening criteria, these effects are insufficient to require an EIA, then they may suggest providing a separate report (or reports) on the affected factors.

If carrying out an initial screening, the applicant may seek to informally consult with the CA and other relevant authorities as referred to above. These other authorities may include those with statutory responsibility for environmental matters such as pollution control, nature protection, cultural heritage, water, waste and air, e.g. the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Authorities are not obliged to engage in informal consultation so, as mentioned above, it

<sup>42</sup> ref. *footnote 16*

<sup>43</sup> Environmental Protection Agency Act 1992, as amended

<sup>44</sup> Waste Management Act 1996, as amended

is generally best to present a reasoned opinion (written statement from a competent expert as to why an EIA is or is not required) rather than just asking the authority if an EIA is required or not. This should assist the authority in making its determination.

Whether consultation is carried out about screening before the consent application is made or not, the CA screens a project for EIA as part of its consent determination process.

### 3.3 SCOPING (STAGE 2 OF 7)

#### 3.3.1 OVERVIEW

'Scoping' is a process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information. It is defined in the EC guidance<sup>45</sup> as:

'determining the content and extent of the matters which should be covered in the environmental information to be submitted in the EIAR'

Scoping is best carried out by personnel having appropriate expertise and relevant prior experience of the factors involved. Knowledge of the characteristics of the project type and of the sensitivities likely to be present in the receiving environment are particularly useful for scoping.

The legislation provides for developers to formally request the opinion of the CA on the scope of an EIAR.<sup>46</sup> This can be availed of for any project requiring an EIAR (ref section 3.3.3 below).

The provision of detail at the scoping stage is the best way to obtain useful and specific responses from consultees.

Scoping is carried out on a case-by-case basis because the significant issues, for different projects are unlikely to ever be identical. However, there are standard issues that a developer should consider for each project to establish whether they apply in specific cases. The Advice Notes<sup>47</sup> contain guidance on relevant environmental factors for principal project types.

The potential for likely significant effects throughout different phases of the proposed project, are considered as far as possible at scoping stage – whether they would individually require consent or not. These include, as relevant, site investigations, construction, commissioning and operation to eventual decommissioning. Scoping also considers the range of alternatives to be considered in an EIAR.

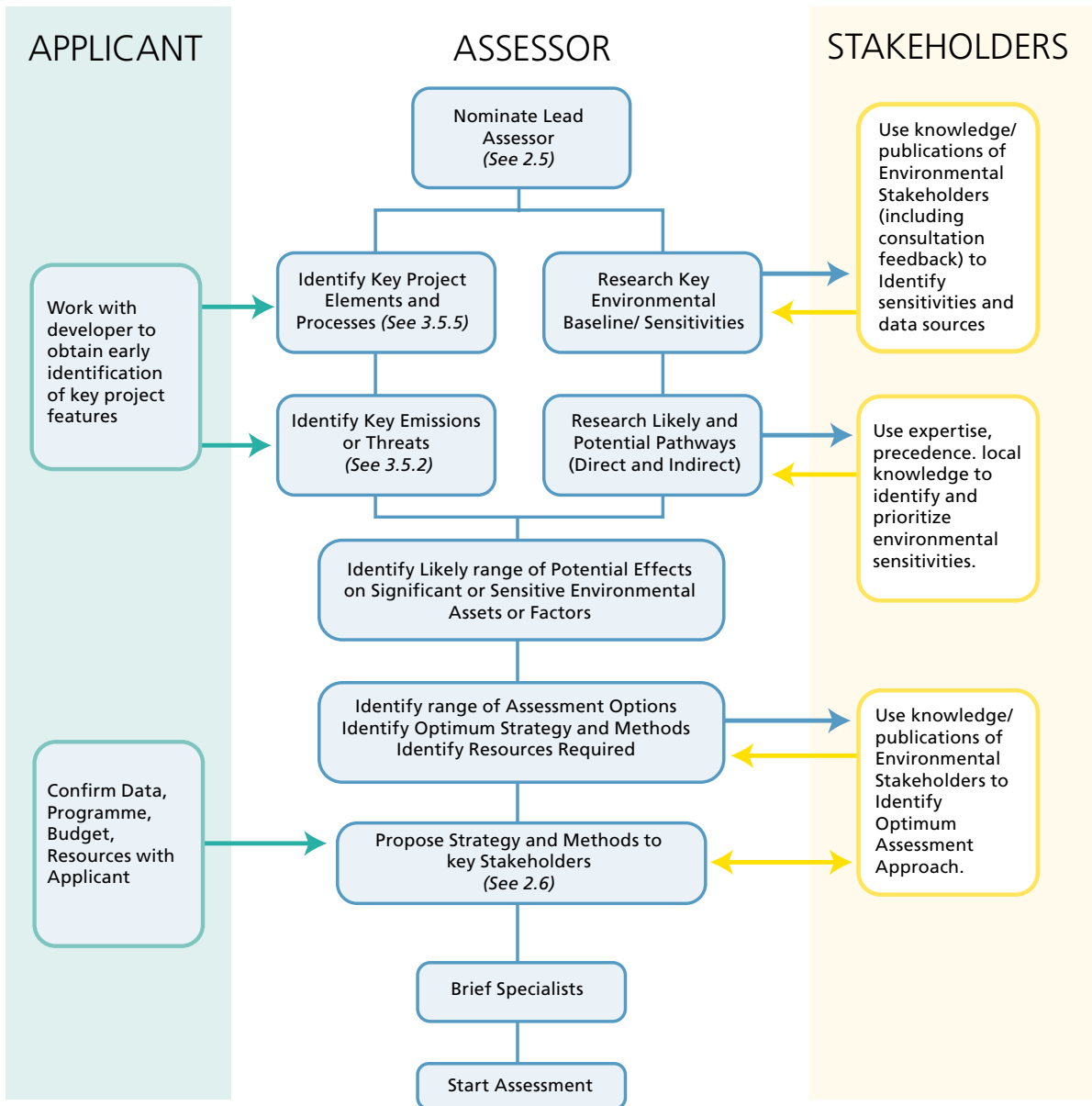
Detailed guidance on scoping can be found in many publications including the Advice Notes and various other documents.<sup>48</sup> Published guidance is typically focussed on individual sectors (e.g. infrastructural projects) or on specialist topics (e.g. geology) and reference to both types is generally beneficial.

45 [Guidance on EIA Scoping](#), EC, 2001

46 ref. Article 5(2) of [amended Directive](#) and [transposing legislation](#) (webpage url to be added following transposition)

47 ref. [footnote 13](#)

48 ref. [webpage](#) (webpage url to be added when available)



The approach illustrated shows how Scoping is best done by ensuring all parties contribute knowledge and experience. This diagram shows that the developer (left) needs to supply information and resources, while Environmental Stakeholders (right) can supply information about environmental sensitivities and opinions on suitable assessment methods.

Figure 3.3 Scoping – Checklist for Assessors<sup>49</sup>

<sup>49</sup> the environmental experts preparing the EIAR

### 3.3.2 PARTICIPANTS IN SCOPING

The scope of the EIAR commonly emerges from a dialogue between some or all of the following:

- ▲ *The applicant, design team and assessors/environmental experts* who may propose an initial draft of the scope on the basis of their knowledge of the project, the site and the likely relevant issues
- ▲ *The Competent Authority (CA)* who will have extensive knowledge of the context and local issues and concerns as well as detailed knowledge of statutory requirements
- ▲ *Other Authorities*<sup>50</sup>, *Agencies and NGOs* who typically have a detailed understanding of aspects of the environment that may be affected
- ▲ *The Public*, either individually or in groups, who are likely to have either thematically specific or area specific concerns. Local residents are likely to be key participants for most projects.

More information on the roles of all participants is given in the Advice Notes<sup>51</sup>.

### 3.3.3 CONSULTATION ABOUT SCOPING

There can be considerable benefits in engaging in early consultation about the scope of an EIAR to help to identify the relevant issues. This can be done formally (under the legislation) or informally.

‘2. Where requested by the developer, the competent authority, taking into account the information provided by the developer in particular on the specific characteristics of the project, including its location and technical capacity, and its likely impact on the environment, shall issue an opinion on the scope and level of detail of the information to be included by the developer in the environmental impact assessment report in accordance with paragraph 1 of this Article. The competent authority shall consult the authorities referred to in Article 6(1) before it gives its opinion.’

and

‘Where an opinion is issued pursuant to paragraph 2, the environmental impact assessment report shall be based on that opinion, and include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment.’

**Article 5(2) and  
extract from  
Article 5(3) of  
amended Directive**

A similar level of detail should be provided to the CA (and any other consultees) on the proposed project and the proposed scope of the EIAR regardless of whether scoping is being done informally or formally. It should be noted that there is no obligation on the CA or other parties to respond to informal scoping requests.

50 ref. [footnote 16](#)

51 ref. [footnote 13](#)

### 3.3.4 KEY SCOPING CRITERIA

All parties should be aware of the need to keep the EIAR as tightly focussed as possible. This focusses the effort and resources of all parties on the key significant issues. Scoping is usually guided by the following criteria:-

- ▲ Use 'Likely' and 'Significant' as the principal criteria for determining what should be addressed. Any issues that do not pass this test should be omitted (scoped out) from further assessment. A section of the EIAR should describe the scoping process explaining why such issues have been scoped out and they are not being considered further. All the prescribed environmental factors<sup>52</sup> need to be listed in the scoping section of the EIAR. It is important to note that the environmental factors themselves cannot be scoped out and must feature in the EIAR. Only topics and headings related to each factor can be scoped in or out. Each environmental factor should be clearly covered by one or more specific section headings in the EIAR.<sup>53</sup> If scoping determines that no likely significant issues arise under any heading, then an explanatory text should be included.
- ▲ Precedence - where EIARs for similar projects on similar sites or for other project proposals for the same site are available, these can be useful references
- ▲ Interactions – assessors need to be vigilant for pathways – direct and indirect – that can magnify effects through the interaction or accumulation of effects – for instance the potential for cumulative significant effects to arise from multiple non-significant effects. (See also *Indirect, Secondary and/or Cumulative Impacts* in [section 3.7.3](#))

### 3.3.5 CONSIDERATION OF OTHER ASSESSMENTS

Scoping considers the extent to which other assessments may address some types of effects adequately and appropriately.

Strategic Environmental Assessment (SEA) is a higher tier form of environmental assessment that examines plans and programmes. It examines a similar range of issues to EIA but at a higher decision making level. These include higher level alternatives and effects of the plan or programme on environmental factors including for example, water quality, biodiversity, climatic factors and the landscape. SEA also considers strategic measures to avoid, reduce or mitigate likely effects. The extent to which higher level considerations have already been assessed- and so do not need to be assessed again - should inform and be referred to in the EIA scoping process. This can reduce the amount of cumulative effects that need to be considered in an EIAR.

Scoping considers other projects or activities that are not included in the same consent application. These may be closely related to the subject consent application and may even be a direct result of it. These could include secondary projects such as a power line or a road junction upgrade which may result in significant effects. (see Case Law summary in [section 3.5.7](#))

Such considerations should allow the CA and the public to form an overall understanding of the likely effects – direct, indirect and cumulative - that will arise because of a decision to permit a project. Where uncertainty arises then an EIAR needs to describe the 'worst case' of the accumulation of effects that could arise from these other projects. It is prudent to identify the full range of these other likely sources of potential effect at the initial scoping stage. This will ensure that major and reasonably foreseeable issues that could prevent the granting of permission by other agencies can be identified and considered.

Assessments carried out to support separate consent requirements may include assessments for compliance under other EU Directives including the Industrial Emissions, Habitats, SEVESO, Waste Framework, Water Framework and Floods Directives. Some of these may be carried out at different stages in the project than the consent application which the EIAR is being prepared for. For example IED (Industrial Emissions Directive) licence applications generally happen after

52 Population and Human Health, Biodiversity, Land, Soil, Water, Air, Climate, Material Assets, Cultural Heritage, Landscape and Interactions between these factors, (ref. Article 3(1) of Directive 2014/52)

53 see sections [4.1](#) and [4.2](#) for more on content and structure of the EIAR

the planning application is made. Others may be carried out at the same time as the preparation of the EIA, Natura Impact Statements for example. The EIA should avoid duplication of assessment covered by these but should incorporate their key findings as available and appropriate. A biodiversity section of an EIA, for example, should not repeat the detailed assessment of potential effects on European sites<sup>54</sup> contained in a Natura Impact Statement<sup>55</sup>, but it should refer to the findings of that separate assessment. The scoping process considers any other such assessments that apply to a project and reduces coverage of these issues in an EIA accordingly. The rationale for reducing coverage of an issue should be clearly documented in the EIA.

Applications for other consents that are not directly related to compliance with other EU Directives, such as Ministerial Consents in relation to National Monuments<sup>56</sup> or under the Wildlife Acts<sup>57</sup> are often made during or after the preparation of the EIA. The EIA should refer to these procedures as relevant, e.g. in the context of mitigation measures.

### 3.3.6 SELECTION OF HEADINGS UNDER WHICH TO ARRANGE ISSUES

The prescribed environmental factors must all be addressed in an EIA. As they are a necessary simplification of the relevant components of the environment, each factor is typically explored by examining a series of headings and/or topics relevant to that factor, as indicated by the examples included in Annex IV of the Directive.

'A description of the factors specified in Article 3(1) likely to be significantly affected by the project: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.'

**Annex IV(4) of  
amended Directive**

These headings and topics are generally identified during the scoping process. Some typical headings and topics and their arrangement within an EIA are shown below.

54 Sites designated under the Habitats or Birds Directives

55 An assessment prepared in accordance with requirements of the Habitats Directive

56 ref. National Monuments Acts 1920 – 2012

57 ref. Wildlife Acts 1976-2010



**Table 3.1 Sample organisation of headings and topics to address issues arising for each prescribed environmental factor**

Prescribed Environmental Factor	Typical Headings under which Environmental Factors could be addressed in an EIAR	Typical Topics
<b>Material Assets</b>	Roads & Traffic	Construction Phase Operational Phase Unplanned Events [i.e. Accidents]
	Built Services	Electricity Telecommunications Gas Water Supply Infrastructure Sewerage
<b>Water</b>	Surface Water	Construction Phase Operational Phase Unplanned Events [i.e. Accidents]
	Ground Water	Construction Phase Operational Phase Unplanned Events [i.e. Accidents]
	Waste Water	Effluent Characteristics On-site Treatment Capacity of Municipal Treatment Plant
<b>The Landscape</b>	Visual Impact	Context Character Significance Sensitivity
	Amenity	Public access Public amenities Recreation Tourism

The inclusion of a table like this at the beginning of an EIAR can be helpful, because relevant issues and their arrangement as headings and topics within an EIAR varies from project to project. The table shows how the selected headings/topics in the project’s EIAR relate to the prescribed environmental factors. This will show how each of the environmental factors has been addressed, demonstrating compliance with the statutory requirements.

Some topics could be placed under more than one heading, for example where *hydrogeology* is a relevant topic it may be relevant under the heading of Aquatic Ecology as well as under Water or Ground Water. Another example would be *amenity* which may be relevant under ‘The Population and Human Health’ and ‘The Landscape’. The requirement for the EIAR to consider ‘Interactions’ resolves this issue by ensuring that effects are cross-referenced between topics, thus reducing the need to duplicate coverage of such topics.

Some types of factors are particularly vulnerable to unplanned events that have the potential to cause significant sudden environmental effects. Unplanned events can include spill from traffic accidents, floods or land-slides affecting the site, fire, collapse or equipment failure on the site. Topics such as human health, air and water, for example, should ensure that consideration extends beyond construction and operational activities – to include consideration of such unplanned events.

## Population & Human Health

- ▲ Employment
- ▲ Human Health (considered with reference to other headings such as water and air)
- ▲ Amenity (e.g. effects on amenity uses of a site or of other areas in the vicinity – may be addressed under the factor of Landscape)

The legislation does not generally require assessment of land-use planning, demographic issues or detailed socio-economic analysis. Coverage of these can be provided in a separate Planning Application Report to accompany an application for planning permission. This should be avoided in an EIAR, unless issues such as economic or settlement patterns give rise directly to specific new developments and associated effects (ref. [section 3.5.7](#)). These need to be readily identifiable at specific locations in the immediate vicinity of the proposed development. The main purpose of such identification and assessment is to provide the CA with a context for their determination. (Examples would include future warehousing beside a new port; transmission lines in the vicinity of a new electrical sub-station or commercial developments beside a junction on zoned land beside a new road.)

### **Human Health**

The recitals to the 1985 and 2011 Directives refer to ‘human health’ and include ‘Human Beings’ as the corresponding environmental factor. The 2014 Directive changes the title of this factor to Population and Human Health’.

While no specific guidance on the meaning of the term Human Health has been issued in the context of Directive 2014/52/EU, the same term was used in 3.3.6 the SEA Directive (2001/42/EC). The Commission’s SEA Implementation Guidance states ‘The notion of human health should be considered in the context of the other issues mentioned in paragraph (f)’.<sup>58</sup> (Paragraph (f) lists the environmental factors including soils, water, air etc.) This is consistent with the approach set out in the 2002 EPA Guidelines where health was considered through assessment of the environmental pathways through which it could be affected, such as air, water or soil, viz:

‘The evaluation of effects on these pathways is carried out by reference to accepted standards (usually international) of safety in dose, exposure or risk. These standards are in turn based upon medical and scientific investigation of the direct effects on health of the individual substance, effect or risk. This practice of reliance upon limits, doses and thresholds for environmental pathways, such as air, water or soil, provides robust and reliable health protectors [protection criteria] for analysis relating to the environment.’

In an EIAR, the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil etc.. The Advice Notes<sup>59</sup> provide further discussion of how this can be addressed.

Assessment of other health & safety issues are carried out under other EU Directives, as relevant. These may include reports prepared under the Integrated Pollution Prevention and Control, Industrial Emissions, Waste Framework, Landfill, Strategic Environmental Assessment, Seveso III, Floods or Nuclear Safety Directives.<sup>60</sup> In keeping with the requirement of the amended Directive, an EIAR should take account of the results of such assessments without duplicating them.

58 [Section 5.2.6 of \*Implementation of Directive 2001/42 on the assessment of the effects of certain plans and programmes on the Environment\*](#)

59 ref. [footnote 13](#)

60 Directives 2008/1/EC, 2010/75/EU, 2012/18/EU, 1999/31/EC, 2001/42/EC, 2008/98/EC, 2007/60/EC and 2009/71/EURATOM (all as amended)

## Biodiversity

### Recital (7) of Directive 2014/52/EU

Over the last decade, environmental issues, such as resource efficiency and sustainability, biodiversity protection, climate change, and risks of accidents and disasters, have become more important in policy making. They should therefore also constitute important elements in assessment and decision-making processes.

### Recital (12) of Directive 2014/52/EU

With a view to ensuring a high level of protection of the marine environment, especially species and habitats, environmental impact assessment and screening procedures for projects in the marine environment should take into account the characteristics of those projects with particular regard to the technologies used (for example seismic surveys using active sonars).

- ▲ Habitats
- ▲ Breeding/Feeding/Roosting Areas
- ▲ Routes and landscape features
- ▲ Mammals/Birds/Fish/Invertebrates/Reptiles
- ▲ Vascular plants/bryophytes/lichens/fungi
- ▲ Population Stability
- ▲ Population Management
- ▲ Critical Resources
- ▲ Terrestrial/Aquatic/Marine
- ▲ Seasonality
- ▲ Existing Management
- ▲ Ecosystem Services
- ▲ Legal protection

### **Biodiversity**

The amended Directive replaces the environmental factor of 'Flora & Fauna' with 'Biodiversity'. This change follows the publication by the Commission of 'Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment'<sup>61</sup>. It aligns the Directive with the United Nations Convention on Biological Diversity<sup>62</sup> and with 'Our life insurance, our natural capital: an EU biodiversity strategy to 2020'<sup>63</sup>.

Recital 14 of the amended Directive provides this context 'The effects of a project on the environment should be assessed in order to take account of concerns ... to ensure maintenance of the diversity of species and to maintain the reproductive capacity of the ecosystem as a basic resource for life. This recital is unchanged since it originally appeared in Directive 85/337/EEC.

61 EU, 2013

62 ref Recital 10 of amended Directive

63 EC, 2011

## Land & Soils

- ▲ Land (for example land take)<sup>64</sup>
- ▲ Soil (for example organic matter, erosion, compaction, sealing)<sup>65</sup>
- ▲ Agricultural capability
- ▲ Geology
- ▲ Hydrogeology (may alternatively be placed under heading of Water)

### **Land**

The amended Directive introduces Land as a prescribed environmental factor. Recital 9 gives context to this addition, showing that it relates to the issue of 'land take'. This change aligns the Directive with proceedings of the United Nations Conference on Sustainable Development (Rio de Janeiro, 2012) and with Commission strategy.

## Water

- ▲ Water (for example hydromorphological changes, quantity and quality)<sup>52</sup>
- ▲ Ground/Surface/Estuarine/Marine
- ▲ Physical characteristics
- ▲ Chemical characteristics
- ▲ Q value
- ▲ Beneficial uses
- ▲ Flooding

## Air

- ▲ Air Quality
  - ▲ Pollutants
  - ▲ Suspended Particles
- ▲ Odour
- ▲ Noise & Vibration
  - ▲ Daytime Noise
  - ▲ Night time Noise
  - ▲ Vibration sources
  - ▲ Sensitive receptors
- ▲ Radiation

64 Removal of productive land from potential agricultural or other beneficial uses

65 Annex IV(4) of amended Directive

**Recital (13) of  
Directive  
2014/52/EU**

## Climate

'Climate change will continue to cause damage to the environment and compromise economic development. In this regard, it is appropriate to assess the impact of projects on climate (for example greenhouse gas emissions) and their vulnerability to climate change.'

- ▲ CFCs
- ▲ Acid Rain
- ▲ Thermal Pollution
- ▲ Climate change trends (macro and micro)

### **Climate**

The list of environmental factor which needed to be addressed under Directive 2011/92/EU included climate. The amended Directive also requires the vulnerability of a project to climate change to be addressed, particularly 'the risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge'<sup>66</sup>. Separate assessments may substantially address climate and those assessments should be referred to where appropriate.<sup>67</sup> For example; assessment of climate change effects at a higher decision making level in an SEA or consideration of effects of climate change on a project in a Flood Risk Assessment.

See EU 'Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment'<sup>68</sup> for more on this.

## Material Assets

- ▲ Built Services
- ▲ Roads and Traffic
- ▲ Waste Management

### **Material Assets**

The meaning of this factor is less clear than others. In Directive 2011/92/EU it included architectural and archaeological heritage. Directive 2014/52/EU includes those heritage aspects as components of cultural heritage. Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes roads infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils.

<sup>66</sup> Annex III(1)(f)

<sup>67</sup> ref. [Section 3.3.5](#)

<sup>68</sup> EU, 2013

### Cultural Heritage

- ▲ Archaeology
  - ▲ Known archaeological monuments
  - ▲ Areas of archaeological potential (including unknown archaeology)
  - ▲ Underwater archaeology
- ▲ Architectural heritage
  - ▲ Designated architectural heritage
  - ▲ Other significant architectural heritage
- ▲ Folklore and history
  - ▲ Designations or sensitivities

### The Landscape

- ▲ Landscape Appearance and Character
- ▲ Landscape Context
- ▲ Views & Prospects
- ▲ Historical Landscapes

### Interactions between impacts on different factors

Scoping stage should consider the likely relevant interactions that need to be assessed in the EIA. For example if interaction between ecology and surface water is a likely issue this should be outlined. (Also see [section 3.7.6.](#))

[Section 4](#) provides more information on the arrangement of the appropriate material in an EIA.

#### 3.3.7 ONGOING SCOPING

Scoping continues throughout the preparation of an EIA. The team working on the EIA, particularly the team leader(s), should maintain a flexible view of the scope throughout the work on the EIA, particularly during the earlier stages. If information or analysis that emerges after the initial scoping stages indicates that additional issues should be considered, then these can be included.

#### 3.3.8 DESIGN REVIEW

The project design is adapted and continually reviewed in light of predicted environmental effects emerging during the preparation of an EIA. [Section 2.4.1](#) provides specific recommendations on the need for the developer, the design team and the environmental specialists to maintain a regular dialogue through the design preparations and revisions to ensure that this objective is achieved. Open, effective and ongoing communication between all members of the developer's team helps to achieve this.

Scoping should be linked with and informed by design reviews at any stage during the preparation of the EIA.

## 3.4 CONSIDERATION OF ALTERNATIVES (STAGE 3 OF 7)

### 3.4.1 OVERVIEW

The EIA Directive requires an EIAR to contain:

**Annex IV(2) of the amended Directive**

'A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.'

The presentation and consideration of the various reasonable alternatives investigated by the developer is an important requirement of the EIA process.

The objective is for the developer to present a representative range of the practicable alternatives considered. The alternatives should be described with 'an indication of the main reasons for selecting the chosen option'. It is generally sufficient to provide a broad description of each main alternative and the key issues associated with each, showing how environmental considerations were taken into account in deciding on the selected option. A detailed assessment (or 'mini-EIA') of each alternative is not required.

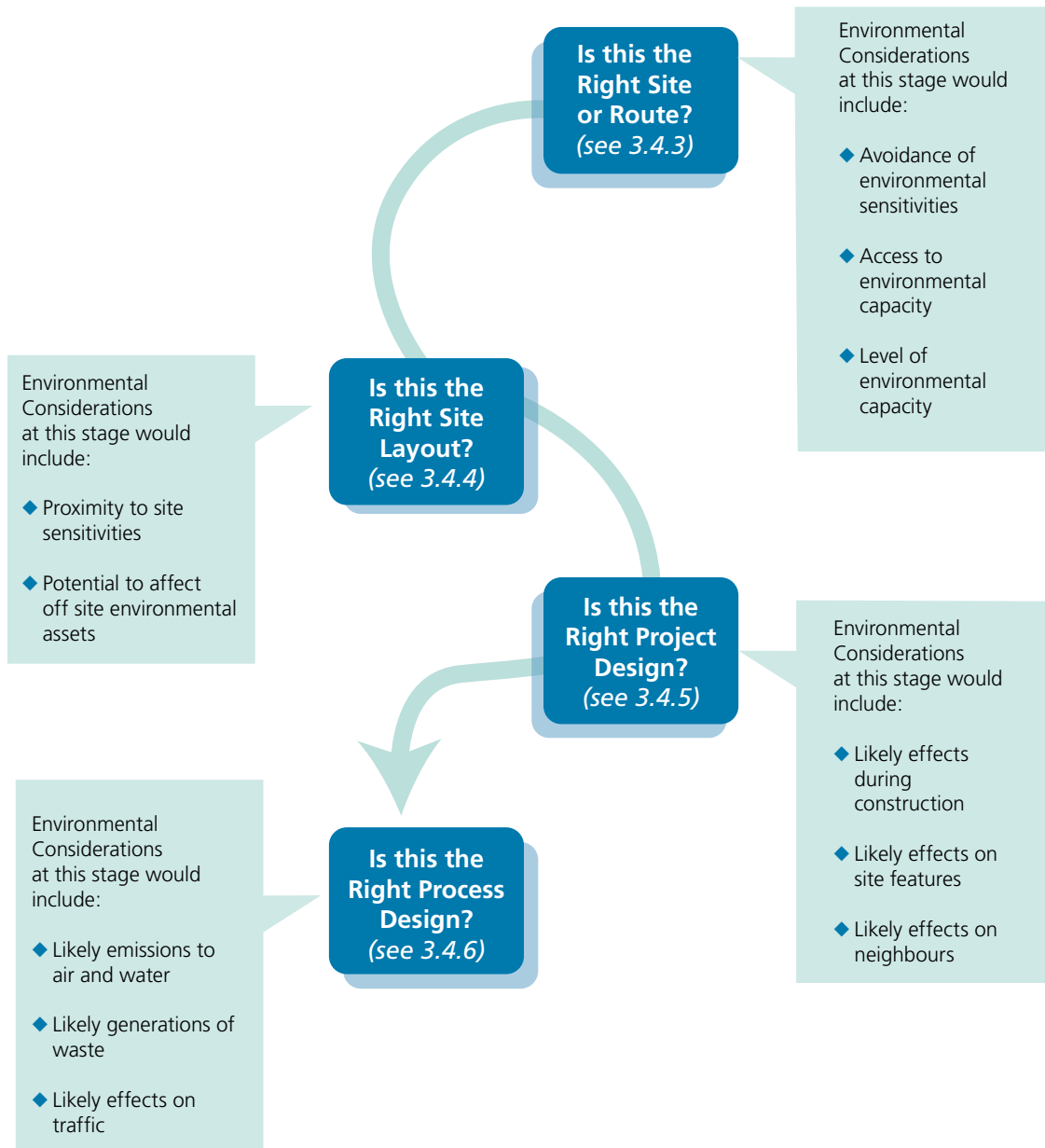
In an effective EIA process, different types of alternatives may be considered at several key stages during the process. As environmental issues emerge during the preparation of the EIAR, alternative designs may need to be considered early on in the process or alternative mitigation options may need to be considered towards the end of the process. These various levels of alternatives are discussed further in sections 3.4.2 to 3.4.7 and in figure 3.4 below.

Clearly in some instances some of the alternatives described below will not be applicable – e.g. there may be no relevant 'alternative location' for the upgrading of an existing road.

Higher level alternatives may already have been addressed during the strategic environmental assessment of relevant strategies or plans. Assessment at that level is likely to have taken account of environmental considerations associated, for example, with the cumulative impact of an area zoned for industry on a sensitive landscape. Note also that plan-level/higher-level assessments may have set out project-level objectives or other mitigation that the project and its EIAR should be cognisant of. Thus, these prior assessments of strategic alternatives may be taken into account and referred to in the EIAR. This is particularly the case for public sector projects where it is often appropriate to consider a wider range of alternatives than for private sector projects. (See [section 3.3.5](#) for more on consideration of other assessments.<sup>69</sup>)

<sup>69</sup> alternatives for Habitats/Birds Directives assessments are addressed in other documents/guidance from the Commission and elsewhere

Analysis of high-level or sectoral strategic alternatives cannot reasonably be expected within a project level EIAR. Types of high-level strategic alternatives include electricity generation from renewables rather than fossil fuels in the case of a proposal for expansion of an existing power station, for example, or extraction of stone from another location outside the control of the developer in the case of a proposal to extend a quarry. It should be borne in mind that the amended Directive refers to ‘reasonable alternatives... which are relevant to the proposed project and its specific characteristics’.



This illustrates the sequence of alternative options that exist. Not all options (such as alternative sites) may be available for every project. The applicant is required to describe the reasonable alternatives examined during the design process with description of the environmental considerations that were taken into account.

**Figure 3.4 Consideration of Alternatives in an EIAR**



### 3.4.2 'DO-NOTHING' ALTERNATIVE

The range of alternatives can include a 'do-nothing' alternative<sup>70</sup> where appropriate. This examines trends currently occurring at the site, for example likely land use changes or other interventions, the likely effects of climate change, and the significance of these changing conditions. It can be particularly useful when assessing effects caused by projects which themselves are designed to alleviate environmental or infrastructural problems, e.g. waste treatment facilities, flood relief projects, road building, etc.

The do-nothing alternative is a general description of the evolution of the key environmental factors of the site and environs if the proposed project did not proceed. It is similar to but typically less detailed than the 'likely future receiving environment' description discussed in [section 3.6 Describing the Baseline](#).

It should consider the effects of projects which already have consent but are not yet implemented. It may also be appropriate to consider other projects that are planned but not yet permitted. For example, it would be prudent to consider a significant project for which a planning application has been lodged even if the consent decision has not been issued.

The do-nothing alternative should describe consequences that are reasonably likely to occur. It ought not be used to exaggerate or catastrophize environmental consequences that may occur without the proposed project.

### 3.4.3 ALTERNATIVE LOCATIONS

Some locations have more inherent environmental sensitivities than others. Depending on the type of project and the range of alternatives which the developer can realistically consider, it may be possible to avoid such sites in favour of sites which have fewer constraints and more capacity to sustainably assimilate the project. It can be useful to ensure that a range of options, that may reasonably be available, are included in the evaluation.

### 3.4.4 ALTERNATIVE LAYOUTS

Alternative layouts can often be devised to consider how different elements of a proposal can be arranged on a site, typically with different environmental, as well as design implications.

### 3.4.5 ALTERNATIVE DESIGNS

Many environmental issues can be resolved by design solutions that vary key aspects such as the shape of buildings or the location of facilities. Where designers are briefed at an early stage on environmental factors, these can be considered during the design development process, along with other design parameters.

### 3.4.6 ALTERNATIVE PROCESSES

Within each design solution there can be several different options as to how the processes or activities of the project can be carried out, e.g. the management of processes that affect the volumes and characteristics of emissions, residues, traffic and the use of natural resources.

### 3.4.7 ALTERNATIVE MITIGATION MEASURES

It may be possible to mitigate effects in a few different ways. In these circumstances the EIAR can describe the various options and provide an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

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70 Guidance on do-nothing alternatives is given in [Development of Strategic Environmental Assessment \(SEA\) Methodologies for Plans and Programmes in Ireland](#), EPA, 2003. While this is an SEA guidance document it is also useful in the context of EIA as similar principles apply.

### 3.4.8 CONSULTATION ABOUT CONSIDERATION OF ALTERNATIVES

As mentioned in [section 3.3](#), it may also be useful to use consultation processes to help to identify alternative options.

(See sections [2.4](#), [3.3.5](#) and [3.8.1](#) for more coverage of alternatives.)

## 3.5 DESCRIBING THE PROPOSED PROJECT (STAGE 4 OF 7)

### 3.5.1 INTRODUCTION

The EIA Directive requires that the EIAR includes:

‘a description of the project comprising information on the site, design, size and other relevant features of the project’

**Article 5(1)(a) of amended Directive**

The developer is required to provide a description of the whole proposed project, comprising information on the site, design, size and other relevant features of the project, within the EIAR. The actual level of detail required will vary according to the stage at which the consent procedure is taking place, the specific characteristics of the project and the environmental features likely to be affected, as may have been identified during scoping. The range of information and the level of detail required should be sufficient to fulfil the needs of the consent procedure that the EIAR is to be submitted for. Where the same EIAR is to be used to support more than one such procedure then it may need to include supplementary material when used for one or other of the procedures. However, it is appropriate for most EIARs to include (to varying degrees of detail) a description of:

- ▲ the **location** of the project
- ▲ the **physical characteristics** of the whole project, including, where relevant, demolition works, the land-use requirements during construction and operation as well as other works that are integral to the project
- ▲ the **main characteristics of the operational** phase of the project (production and maintenance processes in particular), for example energy demand, energy used, nature and quantity of materials and natural resources (including water, land, soil, biodiversity, etc.,) used

and:

- ▲ an estimate, by **type and quantity, of the expected residues and emissions** (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operational phases.)

The description of the site, design and scale of the project considers all relevant phases of the life of the project, e.g. from construction through to existence and operation (and in some cases to its restoration or decommissioning).

The description of a project that is required for an EIAR is specific and is different to a description that would typically be used, for example, in the construction sector. It is also different to the description that would be used to support a consent application, for example a land-use planning application that is not accompanied by an EIAR. The principal differences arise from the fact that the EIAR needs to describe the dynamics, for example, of the construction and day to day operations as well as the use, disposal and transformation of materials in ways that traditional static descriptions of structures, layouts and land-uses do not. Similarly, in an EIAR it may be useful to describe avoidance measures that have been integrated into the project proposal. (ref also [section 3.5.8](#))

It should also be noted that the focus of the analysis required for the factors within the EIAR may change following initial baseline surveys, e.g. discovery of a zone of high archaeological potential adjacent to a site will trigger a need for increased detail on construction activities that will cause ground disturbance.

The implementation of a systematic approach will help ensure that all relevant aspects of the project are accurately and fully described by the developer. The requirement is to provide a description in sufficient detail, which if taken together with the description of the existing environment, will allow a CA to understand the significant effects likely to arise from the proposed project.

Not all the following headings will be relevant for all projects. More detailed coverage of the information which may be relevant under each heading is provided in the Advice Notes<sup>71</sup>.

(See also [section 3.2.3](#) re the need to describe the whole project and [3.5.7 Description of Other Related Projects](#).)

### 3.5.2 CHARACTERISTICS OF THE PROJECT

**Recital (22) of  
Directive  
2104/52/EU**

'...environmental impact assessments should take account of the impact of the whole project in question, including, where relevant, its subsurface and underground, during the construction, operational and, where relevant, demolition phases.'

The typical categories for describing the physical characteristics of a project are given below. These topics are frequently cross-referenced to drawings and illustrations:

- ▲ the site location
- ▲ the size, design and appearance of the proposed project
- ▲ the cumulation with other proposed projects
- ▲ the use of natural resources
- ▲ the production of waste
- ▲ emissions and nuisances
- ▲ a description of the Risk of Accidents – having regard to substances or technologies used.

71 ref. [footnote 13](#)

Complex projects which require EIA are described in a manner that takes account of their full 'life-cycle'. They have the potential to generate different effects at different times and at different places both at and beyond the project site.

### 3.5.3 DESCRIPTION OF CONSTRUCTION

Effects during construction can often be more significant than those that arise during the operational life of a project. Larger projects can take several years to complete. During this period, there may be numerous significant effects. The description includes, but is not limited to: -

- ▲ the construction phase land use requirement
- ▲ Proposed works and construction methods
- ▲ Duration and timing including any phasing proposals
- ▲ Environmental protection measures
- ▲ Construction Management Plan (CMP)

### 3.5.4 DESCRIPTION OF COMMISSIONING

This may be useful if the proposed project will not be substantially operational in the period immediately following construction. This description could include: -

- ▲ Testing, certification and commissioning
- ▲ Occupation/use
- ▲ Establishment of mitigation measures (e.g. screening).

### 3.5.5 THE OPERATION OF THE PROJECT

This is one of the most important sections of an EIAR. While accurate descriptions are vital to ensure credibility, not all of these topics will be relevant to many projects, particularly smaller scale ones.

- ▲ Principal processes or activities
- ▲ The scope of the project
- ▲ The operations described in general terms
- ▲ Processes
- ▲ Regular activities
- ▲ Occasional activities
- ▲ Occupants
- ▲ Materials used
- ▲ Natural resources used (including energy and materials)
- ▲ Residues and emissions
- ▲ Waste management
- ▲ Secondary processes/activities

### 3.5.6 CHANGES TO THE PROJECT

Very few projects remain unaltered throughout their existence. Success may bring growth; technology or market forces may cause processes or activities to alter. All projects change and-like living entities - will someday cease to function.

The lifecycles of some types of projects, such as quarries, are finite and predictable. Such projects often consider their closure and decommissioning in detail from the outset, while for most projects a general indication of the nature of possible future changes may suffice.

While the examination of the potential consequences of change (such as growth) does not imply permission for such growth, its identification and consideration can be an important factor in the determination of the application. Descriptions of changes may cover:

- ▲ Growth
- ▲ Decommissioning
- ▲ Other Changes.

### 3.5.7 DESCRIPTION OF OTHER RELATED PROJECTS

The description includes other projects (sometimes by other developers and sometimes off-site) which occur as a direct result of the main project, such as a power line, a substation, road junction upgrade which may result in significant effects. Some of these may require parallel separate consent. Omission of such projects may be referred to as project-splitting where the projects are 'integral' (i.e. they are required for the primary project to operate). This issue is also discussed under the headings of *Screening* and *Scoping* (ref. sections [3.2](#) and [3.3](#)).

The key considerations are whether such projects are integral (no matter who carries out the work) and whether they are subject to any separate consent procedure with separate environmental assessment requirements.

The description of other projects can loosely be grouped under two headings: Off-site and Secondary Projects. Effects of these can often be as significant as those of the main project and must not be overlooked. It should also be borne in mind that these ancillary works may generate the need for other types of assessments of the entire project (such as an appropriate assessment) which the primary aspect of the project on its own may not necessitate. The following are indicative of aspects which may need to be included in the project description: -

#### Off-Site Projects

These include projects specifically required for the project which take place at a distance from the site, often on lands owned by others (such as public roads) and which are sometimes permitted and developed by others. For example:

- ▲ Transportation
  - ▲ The provision of new access facilities (e.g. links to motorways) or the upgrading of existing facilities (e.g. road widths, bridges and junctions) carried out by other parties can give rise to significant environmental effects
- ▲ Energy transmission, e.g. power lines
  - ▲ The provision of new power-lines or pipelines with associated sub stations or pumping stations can give rise (for instance) to effects on landscape or ecological or archaeological heritage at a considerable distance from the project
- ▲ Wastewater infrastructure.

#### Secondary Projects

These are projects that may arise largely because of the existence of the principal project, though they are usually not carried out by the developer of the principal project. These can be very difficult to describe with precision – but can be usefully examined as a series of 'what if' scenarios that can be used as a context for decision-making by the CA.

Examples include:-

- ▲ Commercial projects at new major road junctions
- ▲ Industrial and warehousing projects near new inter-modal transportation nodes;
- ▲ Recreational land-uses via new access in undeveloped areas (hunters and hill walkers using new access roads to windfarms, for example)
- ▲ Retail projects near new residential areas
- ▲ Land-use change including agricultural intensification, hunting, tourism, restructuring of land-holdings, afforestation etc because of new access.

### CASE LAW

In *O’Grianna v An Bord Pleanála* (IEHC 632, 12/12/2014) the High Court quashed the decision of the Bord granting planning permission for a wind farm in County Cork on ‘project splitting’ grounds. The developer maintained that the EIS could not consider the effects of the connection of the wind farm to the national grid as that design was not available and would be undertaken subsequently by ESB Networks. The Bord accepted this position and clarified that the grid connection was not covered by its permission to develop the wind farm.

The Court held that grid connection was an integral part of the development and could not be considered as a separate project.

‘The wind turbine development on its own serves no function if it cannot be connected to the national grid. In that way, the connection to the national grid is fundamental to the entire project, and in principle at least the cumulative effect of both must be assessed in order to comply with the Directive.’

(See also case law on project splitting in [section 3.2.3](#) and on indirect and cumulative effects in [section 3.7.3](#))

### 3.5.8 LEVEL OF DETAIL IN PROJECT DESCRIPTION

All descriptions of proposed projects are approximations compared to the finished project. Drawings, illustrations and models are conventions used by consent processes to enable the CA to adequately assess the likely effects of the proposed project. The detail of these approximations can vary for different types of projects and different types of consent processes.

The precision of predictions about the likely effects is often determined by the level of project description that can be made available to the CA.

It is very important to understand that the nature of the construction process limits the amount of detail that is available at consent stage to documentation that is described as ‘General Arrangement Illustrations’.

Further detail only becomes available once ‘Contract Documentation’ is available – and while this may involve considerable expense and time it still does not provide complete information because so many of the final details only arise after a ‘Procurement Process’ is completed – which can involve further resources, time and legal commitment.

Consent for land use (‘planning permission’) generally depends on ‘General Arrangement’ Drawings – though more detail may be required where precise information is required to ensure that provision has been made to avoid effects to specific site features – such as a spring, a monument, a protected structure or species - and to assess the range of potential environmental effects that may arise. The feasibility of providing such detail needs to be identified and agreed at scoping stage.

Construction Management Plans are often provided to supplement the project description and to set out specific details of the construction plan. While inclusion of full details may not be practicable at pre-consent stage, it should set out the environmental envelope within which the project will be built, including working areas, hours of work, principal construction methods and phases, volumes of materials, traffic and environmental controls.

Consent for processes – such as emission licenses – often requires very detailed information about the specific equipment and operating procedures. These are not always issued at the same time. In these circumstances it is particularly important for the applicant to specify the environmental envelope so that each CA has sufficient information about the context for their decision.

Where very detailed design parameters are not available, the project description for the consent process and the EIAR will need to specify the outermost (‘not to exceed’) environmental parameters of the characteristics of the proposed project. Such parameters, might include

maximum dimensions, tolerance for variation, maximum emissions, range of technologies and processes to be employed etc. The EIAR thus examines the 'worst case' effects of the project. The detailed design can then vary within this envelope without rendering the EIA inadequate.

In these circumstances the CA will need to provide consent that includes conditions requiring confirmation that the final design conforms fully with the permitted parameters. While this approach may be compliant for EIARs prepared for applications for project consent (e.g. planning applications), its compliance may be less certain in the case of consents for processes where a specific level of detail is required (e.g. IED licence applications).

Notwithstanding any allowance for omission of full details of construction or other details of a proposal from the EIAR, the EIAR must contain adequate information to enable assessment of all likely significant effects.<sup>72</sup> The more detailed the proposal is at the time of the consent application, the easier it will be to ensure compliance with the legislation.

#### **CASE LAW**

In *People Over Wind v. An Bord Pleanála* (2015 ICEA 272) it was judged that matters of detail may be left over for agreement post consent, provided the results to be achieved are specified and provided the project cannot go ahead unless those objectives will be achieved.

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72 ref. Department of the Environment, Heritage and Local Government Circular PC 2/07 and NPWS 1/07

## 3.6 DESCRIBING THE BASELINE (STAGE 5 OF 7)

### 3.6.1 OVERVIEW

The EIA Directive requires:

'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.'

**Annex IV(3) of the amended Directive**

After the description of the proposed project, the description of the baseline scenario is the second of the two factual foundations of the EIAR.

The *baseline scenario* refers to the current state of environmental characteristics. It involves the collection and analysis of information on the condition, sensitivity and significance of relevant environmental factors which are likely to be significantly affected by the project.

The environment will change over time, even without the introduction of the proposed project. Therefore the EIAR must include a description of the likely evolution of the environmental factor in the absence of the project. This predicted changing baseline may be referred to as the *likely future receiving environment*.

Changes to the baseline may be natural changes (due to ecological trends, for example) or may be caused by other actions (nearby projects, for example – ref also coverage of cumulative effects in [section 3.7.3](#)). It is likely that some aspects of the baseline will not change (archaeology for example) whereas others will (water quality for example). Where changes are likely, then the effects of different stages of the proposed project are assessed against the likely future receiving environment.

Gathering of baseline data should ensure that sufficient data is gathered to enable assessment of all the types of effects that the EIAR needs to consider, as identified at scoping stage. These may include direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects.

The description of the baseline scenario needs to be sufficiently accurate to provide a reliable reference against which effects can be assessed and against which environmental monitoring of the effects of the project can be measured (where relevant). It is important to demonstrate that correct methodologies and experts have been used. It is also important that the methodology used in establishing the baseline scenario is documented to permit replicable future monitoring so that the later results can be properly compared (where required). Standard recognised methods should be applied where available and appropriate.



<b>Examples</b>	
<b>(a) Water discharge</b>	Water quality in a river to which a water discharge is proposed is going to improve due to an already permitted upgrade to a water treatment plant upstream of the project, which will be operational before the time of the proposed new discharge. In this case the EIAR should assess the impact of the proposed discharge against the receiving baseline water quality which will occur when the project is built.
<b>(b) Expansion of Industrial Site</b>	Where an intensification of other operations on a site have already been permitted but are not yet operational at the time of the assessment, then emissions from the proposed expansion should be assessed against the increased emissions levels which would apply when the intensification of operations has occurred.
<p><b>Scenarios</b></p> <p>In the case of the examples above, if it is not certain if the change will be in effect before commencement of the proposed project then the impact of the proposed project may be assessed against two scenarios, i.e. with and without the water treatment plant upgrade in example (a) and with and without the intensifications of other operations in example (b).</p> <p>It is important to ensure that the <i>worst case-scenario</i> is assessed. This is the scenario that would be likely to give rise to the most significant environmental impacts.</p>	

The following sections provide general guidance on the methodology and range of baseline information which an adequate description may include. The Advice Notes<sup>73</sup> contain more detail on potentially relevant types of baseline data for each individual environmental factor.

### 3.6.2 METHODOLOGY

#### Sourcing Baseline Information

Baseline information should, in the first instance, be sourced from published references to ensure reliability and objectivity. Such data is increasingly available from state agencies. These sources provide readily available referable sources. These are likely to reduce the time and resources required to prepare an EIAR. They also make it easier for competent authorities and others to review the sources and verify the information used.

Note that the absence of a designation or documented feature (e.g. ecological or archaeological) does not mean that no such feature exists within the site. A detailed evaluation of the existing environment, by specialists (ref. [section 2.5](#)), will probably be necessary for all topics that are likely to be significantly affected.

It is important for the EIAR to draw attention to limitations about factors that may affect the reliability of baseline data. These can include the availability, completeness, accuracy, age and accessibility of data.

The need for site specific and up-to-date data is reviewed on a case-by-case basis in the context of available data and to determine whether new surveys or research are required.

Information on standard/central sources of information on the environment is provided on the EPA [webpage](#)<sup>74</sup>.

<sup>73</sup> ref. [footnote 13](#)

<sup>74</sup> ref. [webpage](#) (webpage url to be added after transposition, when available)

## Describing Baseline Information

To facilitate evaluation of the EIA, references to recognised descriptive standards and classifications should be included, where appropriate, as well as supporting records, information and descriptions of methodologies employed.

The description of any aspect of the environment should provide sufficient data to facilitate the identification and evaluation of the likely significant effects on that topic. Systematic, accurate and comprehensive descriptions include descriptions of the context, character, significance and sensitivity of the existing environment. The following is a list of typical baseline descriptions required for each environmental factor in an EIA. The actual relevant range of information and the appropriate standard of description should be related to the scope of the specific EIA and needs to be ascertained on a case-by-case basis.

**Table 3.2 Typical Standards of Descriptions of Baseline Data for use in an EIA<sup>75</sup>**

BASELINE DESCRIPTIONS REQUIRED	
<b>Context</b>	Describe the location, magnitude, spatial extent and trends of the environmental factor, e.g.:- <ul style="list-style-type: none"> <li>▲ Where is the monument?</li> <li>▲ Are the air/water quality conditions representative?</li> <li>▲ Are there evident trends in the condition of the local environment?</li> <li>▲ What proportion of the habitat is managed?</li> </ul>
<b>Character</b>	Indicate the distinguishing aspects of the environment under consideration, e.g.:- <ul style="list-style-type: none"> <li>▲ Is it unpolluted air/water?</li> <li>▲ What types of habitats are present?</li> <li>▲ What age are the buildings?</li> </ul>
<b>Significance</b>	What quality, value or designation is assigned to this aspect of the existing environment, e.g.:- <ul style="list-style-type: none"> <li>▲ Is it protected by legislation or designation?</li> <li>▲ Is it rare/scarcely/common/abundant?</li> <li>▲ Is it renewable/unique?</li> <li>▲ Is it scenic/ordinary/derelict?</li> </ul>
<b>Sensitivity</b>	How sensitive is this aspect of the environment to change, e.g.:- <ul style="list-style-type: none"> <li>▲ Would any increase in nutrients cause eutrophication?</li> <li>▲ Would disturbance cause the nesting birds to leave?</li> <li>▲ Would any manmade structures detract from the character of the amenity or wilderness?</li> </ul>

### Sufficiency

Baseline information is ultimately used to inform decisions about whether to grant or withhold consent. The information provided should be enough to inform a reliable assessment of the implications for the environment.

The following criteria provide useful guidance on sufficiency of data:-

- ▲ Is the information necessary for identification of the main effects available?
- ▲ Is the information necessary for assessment of the main effects available?
- ▲ Is the information focused on effects which are likely and significant?

Where it is the case that incomplete information is provided, it should be made clear that information is not intentionally withheld and that readers are made aware of the incompleteness.

75 see Advice Notes for more detail on appropriate baseline data (ref. [footnote 13](#))

The CA will then have to determine if the information included is sufficient or if absence of any information renders the EIAR to be non-compliant<sup>76</sup>. If the information is deemed to be sufficient although it is incomplete, then the resultant decision will usually be qualified or conditional.<sup>77</sup>

‘Because permitted adjacent developments are not yet operational and have not been subject to detailed traffic impact assessments it is not possible to model receiving traffic flows (the flows that will be in effect at time of the construction and operation of the proposed project) with full accuracy. The receiving flows have however been calculated based on best predictions using all available information and in keeping with recognised standards<sup>77</sup>.’

***Example of wording in an EIAR regarding sufficiency***

### 3.6.3 GROUPING OF BASELINE INFORMATION

The environment is an extremely complex combination of natural and human factors, many of which are constantly changing. To ensure that comprehensive, reliable and accurate baseline environmental descriptions are provided in a manner which is consistent from one EIAR to another the baseline information is broken down into its constituent elements and categorised under the factors, headings and topics identified during scoping (ref [section 3.3.6](#)) so that it can be systematically described.

### 3.6.4 RANGE AND LEVEL OF DETAIL OF BASELINE INFORMATION

The range and the level of detail of baseline information included in an EIAR should be directly informed by the scoping process. Only information that is required for the assessment of likely significant impacts should be included. Information that is not relevant the scope of the EIAR should not be included. For example, information on water quality characteristics in adjacent water bodies should focus on parameters which are likely to be affected by the proposal and which are analysed in the (later) assessment section of the EIAR. Inclusion of irrelevant information tends to reduce clarity of the assessment as well as adding to costs and time required to prepare the EIAR and unnecessarily increasing demands on all parties involved in the overall EIA process.

*Refer to Advice Notes for more detail on baseline information.*

<sup>76</sup> ref sections 5.5 - 5.7 of [Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment](#), Department of Environment, Community and Local Government, 2013. Also ref. [Circular Letter PD 2/07 and NPWS 1/07](#), Department of the Environment, Heritage and Local Government.

<sup>77</sup> The standards and any relevant traffic guidelines should be referenced.

## 3.7 IMPACT ASSESSMENT (STAGE 6 OF 7)

### 3.7.1 INTRODUCTION

The main purpose of an EIAR is to identify, describe and present an assessment of the likely significant impacts of a project on the environment. This informs the CA's assessment process, its decision on whether to grant consent for a project and, if granting consent, what conditions to attach.

The EIAR focuses on:

- ▲ Impacts that are both likely and significant;
- ▲ Impact descriptions that are accurate and credible

It should contain:

'A description of the likely significant effects of the project on the environment resulting from, inter alia:

- a) the construction and existence of the project, including, where relevant, demolition works;
- b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
- c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
- d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
- e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;
- f) 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;
- g) the technologies and the substances used.

The description of the likely significant effects on the [environmental] factors should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project.'

**Annex IV(5) of the amended Directive**

### Annex III(3) of the amended Directive

Impacts should be described by reference to the individual environmental factors and their sensitivities.<sup>78</sup> It may be useful to consider such impacts in light of the criteria listed in Annex III of the amended Directive.

- a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);
- b) the nature of the impact;
- c) the transboundary nature of the impact;
- d) the intensity and complexity of the impact;
- e) the probability of the impact;
- f) the expected onset, duration, frequency and reversibility of the impact;
- g) the cumulation of the impact with the impact of other existing and/or approved projects;
- h) the possibility of effectively reducing the impact.

The following sections outline how to identify and describe the likely significant effects and how to ensure that sufficient information has been provided to satisfy the requirements of the amended Directive and the legislation.

### 3.7.2 DOCUMENTING THE PROCESS

The assessment of effects needs to leave a clear documentary trail of the analysis used to arrive at conclusions. Such documentation would include a description of data and methods used, the reasons for their selection from a range of reasonable alternative means of assessment, together with descriptions of the reliability and certainty of the results as well as the limitations and difficulties encountered. All the preceding should, wherever possible or relevant, be carried out using referable standards and methods that demonstrably conform to peer-reviewed standards used by established specialist organisations.

Some uncertainty is unavoidable in EIA, especially about matters that involve an element of judgement such as assigning a level of significance to an effect. Such judgements should be explicit and substantiated rather than presented as objective fact. This is best done using agreed referable approaches, e.g. the *Guidelines on landscape and Visual Impacts Assessment*<sup>79</sup> provide guidance on what constitutes a severe visual impact. (See also [section 2.4.2 Maintaining Objectivity](#).)

### 3.7.3 DESCRIPTIONS OF EFFECTS

The description of effects needs to be precise and concise. Each effect usually needs to be qualified to provide a comprehensive description of the predicted effect on receptors – for example ‘The likely effect of the monthly quarry blasts will be a very loud noise that will be audible at

<sup>78</sup> ref. sections [3.3.6](#) and [3.6](#)

<sup>79</sup> *Guidelines for Landscape and Visual Impact Assessment*, the Landscape Institute & I.E.M.A., UK 2013

distances of up to two kilometres. The cumulative effect of the quarry blasts in addition to the established motorway noise will give rise to a momentary increase in noise levels that will have a slight adverse impact at the local primary school.’

The EIAR should focus on the **likely, significant** effects.

### The Likelihood of Effects

To ensure that EIA adds value to the consent process it is necessary to focus on those effects that are probable or likely to occur. However, to be prudent, the EIAR also attempts to identify a reasonably foreseeable worst-case scenario as a context for ‘likely significant effects’.

With competent scoping, it should be possible to greatly narrow down the areas of concern and to derive a list confined to ‘effects’ that may reasonably be seen as ‘likely’. Likely or probable effects can be described as those which are planned to take place (e.g. the projected emissions, the proposed earthmoving etc.) and those which can be reasonably foreseen to be inevitable consequences of the normal construction and operation of the project.

To address unforeseen or unplanned effects the Directive further requires that the EIAR takes account of the vulnerability of the project to risk of major accidents and /or disasters relevant to the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and / or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk). This may be supported by general risk assessment methods or by systematic risk assessments required under other regulations e.g. a COMAH (Control of Major Accident Hazards involving Dangerous Substances) assessment.

The potential for a project to cause risks to human health, cultural heritage or the environment due to its vulnerability to external accidents or disasters<sup>80</sup> is considered where such risks are significant, e.g. the potential effects of floods on sites with sensitive plants. Where such risks are significant then the specific assessment of those risks in the form of a Seveso Assessment (where relevant) or Flood Risk Assessment may be required. The EIAR should refer to those separate assessments while avoiding duplication of their contents (ref. [section 3.3.5](#)).

### The Significance of Effects

The significance attributed to effects can be a central issue when the findings of an EIAR come under scrutiny, for example during an appeals process for a controversial project.

Significance of effects is usually understood to mean the importance of the outcome of the effects (the consequences of the change). Significance is determined by a combination of (objective) scientific and subjective (social) concerns.

While guidelines and standards help ensure consistency, the professional judgement of competent experts plays a role in the determination of significance. These experts may place different emphases on the factors involved. As this can lead to differences of opinion, the EIAR sets out the basis of these judgements so that the varying degrees of significance attributed to different factors can be understood.

### Descriptive Terminology

The description of effects is usually subjected to closer scrutiny than any other part of the EIAR. Clarity of method, language and meaning are vital to accurately explain the full range of effects. Adherence to a systematic method of description can be of considerable assistance in this matter.

The relevant terms listed in the table below can be used to consistently describe specific effects. All categories of terms do not need to be used for every effect.

**Table 3.3 Descriptions of Effects**

<p><b>Quality of Effects</b></p> <p>It is important to inform the non-specialist reader whether an effect is positive, negative or neutral</p>	<p><b>Positive Effects</b></p> <p>A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem; or by removing nuisances or improving amenities).</p>
	<p><b>Neutral Effects</b></p> <p>No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.</p>
	<p><b>Negative/adverse Effects</b></p> <p>A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).</p>
<p><b>Describing the Significance of Effects</b></p> <p>“Significance’ is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see <i>Determining Significance</i> below.).</p>	<p><b>Imperceptible</b></p> <p>An effect capable of measurement but without significant consequences.</p>
	<p><b>Not significant</b></p> <p>An effect which causes noticeable<sup>2</sup> changes in the character of the environment but without significant consequences.</p>
	<p><b>Slight Effects</b></p> <p>An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.</p>
	<p><b>Moderate Effects</b></p> <p>An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.</p>
	<p><b>Significant Effects</b></p> <p>An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.</p>
	<p><b>Very Significant</b></p> <p>An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.</p>
	<p><b>Profound Effects</b></p> <p>An effect which obliterates sensitive characteristics</p>
<p><b>Describing the Extent and Context of Effects</b></p> <p>Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.</p>	<p><b>Extent</b></p> <p>Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.</p>
	<p><b>Context</b></p> <p>Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)</p>

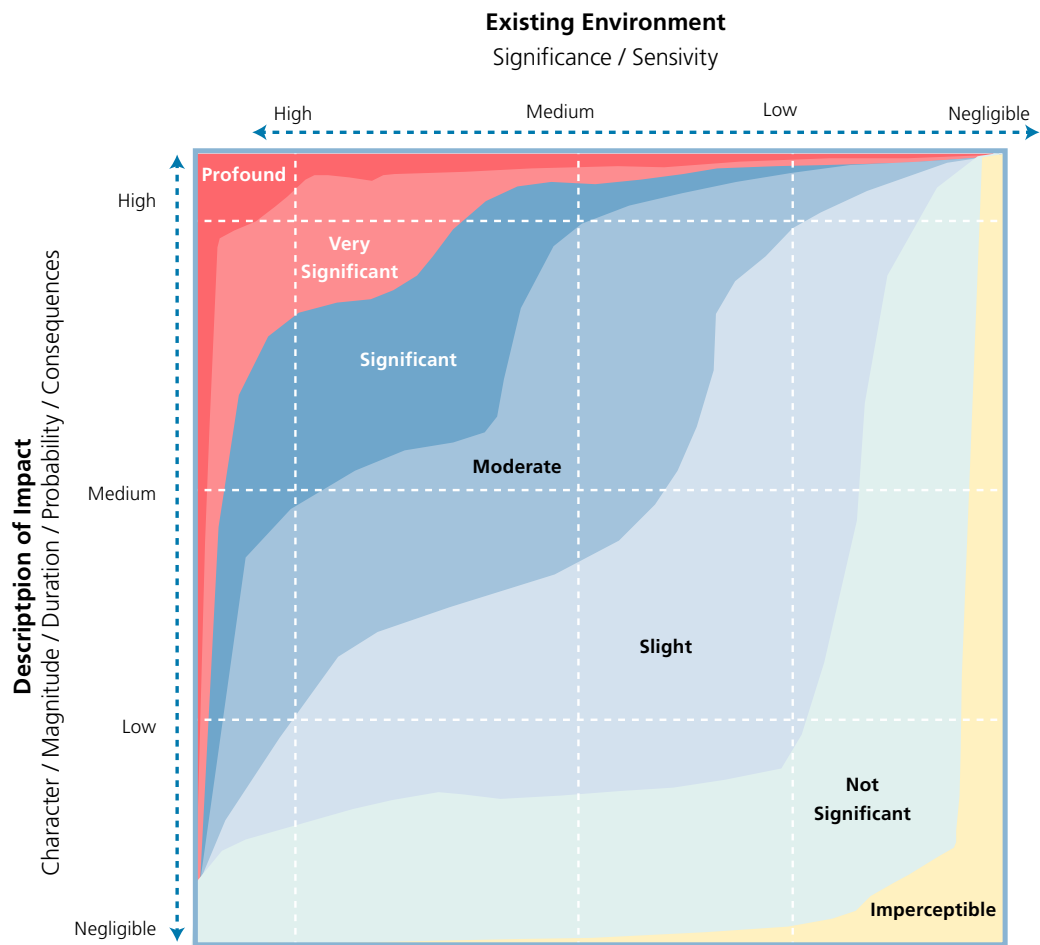
<p><b>Describing the Probability of Effects</b></p> <p>Descriptions of effects should establish how likely it is that the predicted effects will occur – so that the CA can take a view of the balance of risk over advantage when making a decision.</p>	<p><b>Likely Effects</b></p> <p>The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.</p>
<p><b>Describing the Duration and Frequency of Effects</b></p> <p>‘Duration’ is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.</p>	<p><b>Unlikely Effects</b></p> <p>The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.</p>
	<p><b>Momentary Effects</b></p> <p>Effects lasting from seconds to minutes</p>
	<p><b>Brief Effects</b></p> <p>Effects lasting less than a day</p>
	<p><b>Temporary Effects</b></p> <p>Effects lasting less than a year</p>
	<p><b>Short-term Effects</b></p> <p>Effects lasting one to seven years.</p>
	<p><b>Medium-term Effects</b></p> <p>Effects lasting seven to fifteen years.</p>
	<p><b>Long-term Effects</b></p> <p>Effects lasting fifteen to sixty years.</p>
	<p><b>Permanent Effects</b></p> <p>Effects lasting over sixty years</p>
	<p><b>Reversible Effects</b></p> <p>Effects that can be undone, for example through remediation or restoration</p>
<p><b>Frequency of Effects</b></p> <p>Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)</p>	



<b>Describing the Types of Effects</b>	<p><b>Indirect Effects (a.k.a. Secondary Effects)</b></p> <p>Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.</p>
	<p><b>Cumulative Effects</b></p> <p>The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.</p>
	<p><b>'Do-Nothing Effects'</b></p> <p>The environment as it would be in the future should the subject project not be carried out.</p>
	<p><b>'Worst case' Effects</b></p> <p>The effects arising from a project in the case where mitigation measures substantially fail.</p>
	<p><b>Indeterminable Effects</b></p> <p>When the full consequences of a change in the environment cannot be described.</p>
	<p><b>Irreversible Effects</b></p> <p>When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.</p>
	<p><b>Residual Effects</b></p> <p>The degree of environmental change that will occur after the proposed mitigation measures have taken effect.</p>
	<p><b>Synergistic Effects</b></p> <p>Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SO<sub>x</sub> and NO<sub>x</sub> to produce smog).</p>

### Determining Significance

The diagram below shows how comparison of the character of the predicted impact to the sensitivity of the receiving environment can determine the significance of the impact.



There are seven generalised degrees of impact significance that are commonly used in EIA. Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant and Profound. Generalised definitions of each of these are provided in Table 3.3 above. Where more specific definitions exist within a specialised factor or topic e.g. biodiversity, these should be used in preference to these generalised definitions. (ref. Advice Notes<sup>81</sup>)

Figure 3.5 Chart showing typical classifications of the significance of impacts<sup>82</sup>

### Indirect, Secondary and/or Cumulative Impacts

The EC *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions*<sup>83</sup> provide the following definitions.

#### Indirect Impacts:

'Impacts on the environment, which are not a direct result of the project, often produced away from (the site) or as a result of a complex pathway.'

81 ref. footnote 13

82 This chart is adapted from guidance provided in section C8 of *A handbook on environmental impact assessment Guidance for Competent Authorities, Consultees and others involved in the Environmental Impact Assessment Process in Scotland*, Scottish Natural Heritage, 4th Edition, 2013. The depiction of significance classifications is indicative and should not be relied on as being definitive. It is provided for general guidance purposes.

83 *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions*, European Commission, 1999

These are sometimes referred to as '**secondary** impacts'. One example of an indirect impact would be deterioration of water quality due to soil erosion following tree clearance for a leisure development on a woodland site. In this case the tree removal is a direct impact and the effects of the erosion are indirect impacts.

#### CASE LAW

In *An Taisce v An Bord Pleanála* (2015 IEHC 633) *Edenderry*<sup>84</sup> the High Court ruled that an EIA of a proposal to extend the operating life of the peat and part biomass fuelled power station at Edenderry, Co Offaly excluded indirect effects due to harvesting of peat to fuel the power plant. The judgement referred to the 'functional interdependence' between the plant and the bogs where the peat was harvested. It was held the fact that the harvesting operations were governed by separate EPA licensing did not justify exclusion from the EIA process.

#### Cumulative Impacts:

The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.

While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or significant), result in a cumulative impact that is collectively significant. For example, effects on traffic due to an individual industrial project may be acceptable however it may be necessary to assess the cumulative impacts taking account of traffic generated by other permitted or planned projects. It can also be prudent to also have regard to the likely future environmental loadings arising from the development of zoned lands in the immediate environs of the proposed project.

(See also [section 3.5.7 Description of Other Related Projects](#) for more on cumulative effects.)

### 3.7.4 IMPACT ASSESSMENT CRITERIA

As identified in [section 3.7.1](#) above, the likely significant effects of projects on the environment must be considered in relation to a set of criteria identified in the Directive. To ensure sufficient information has been provided in this regard, the EIAR should aim to answer the types of questions included in the right-hand column of Table 3.4 below in relation to each of the criteria.

**Table 3.4 Checklist for Information required to describe effects<sup>85</sup>**

CRITERIA	DETAILED QUESTIONS - TO DETERMINE WHETHER THE EIAR HAS:
a. <b>Magnitude and spatial extent of the effects</b>	<ul style="list-style-type: none"> <li>▲ clarified the size and scale of the effects?</li> <li>▲ indicated the spatial extent of the effects (will some, much or all the areas be affected)?</li> <li>▲ identified the receptors which will be affected, indicating their sensitivity and significance?</li> </ul>
b. <b>Nature of the Effects</b>	<ul style="list-style-type: none"> <li>▲ clarified which part of the environment will be affected and how significantly?</li> <li>▲ identified the aspect of the environment affected?</li> <li>▲ described whether the effects is positive, neutral or negative?</li> </ul>
c. <b>Transboundary nature of the effects</b>	<ul style="list-style-type: none"> <li>▲ indicated the spatial extent of the transboundary effects (will some, much or all of the jurisdiction be affected)?</li> </ul>
d. <b>Intensity and complexity of the effects</b>	<ul style="list-style-type: none"> <li>▲ quantified the amount or intensity by which the character/quality of any environmental factor will change?</li> <li>▲ described the degree of change; (i.e. imperceptible, slight or significant)?</li> <li>▲ Identified the significance of the effect [Profound or insignificant]</li> </ul>
e. <b>Probability of the effects</b>	<ul style="list-style-type: none"> <li>▲ established the level of certainty of the assessment's findings?</li> <li>▲ highlighted consequence that cannot be determined?</li> </ul>
f. <b>Expected onset, duration, frequency and reversibility of the effects</b>	<ul style="list-style-type: none"> <li>▲ stated whether the effects will be continuous, intermittent or occasional?</li> <li>▲ indicated whether the effects will be temporary, short, medium or long-term?</li> <li>▲ highlighted irreversible effects?</li> </ul>
g. <b>Cumulation of the effects with the effects of other existing and/or approved projects</b>	<ul style="list-style-type: none"> <li>▲ described cumulative effects?</li> <li>▲ considered cumulative effects due to cumulation of effects with those of other projects that are existing or are approved but not yet built or operational?</li> </ul>
h. <b>Possibility of effectively reducing the effects</b>	<ul style="list-style-type: none"> <li>▲ indicated whether the effects can be mitigated?</li> <li>▲ stated whether compensation is available, possible or acceptable?</li> </ul>

### 3.7.5 ASSESSMENT METHODS

Where relevant the EIAR should describe the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge<sup>86</sup>) encountered in compiling the required information and the main uncertainties involved. These details should enable all parties to arrive at similar conclusions as to the significance of effects, having regard to the criteria above<sup>87</sup>. This is typically included on a topic-by-topic basis within each specialist section of the EIAR. There is more detailed discussion of this in the accompanying Advice Notes<sup>88</sup>.

85 Adapted from criteria to determine whether projects would have significant environmental impacts as set out in Directive 2014/52/EU, Annex III.

86 ref. guidance on *sufficiency* in [section 3.6.2](#)

87 ref. sections [3.7.3](#) and [3.7.4](#)

88 ref. [footnote 13](#)

### 3.7.6 INTERACTIONS BETWEEN IMPACTS ON DIFFERENT FACTORS

The interactions between impacts on different environmental factors should be addressed as relevant throughout the EIAR. For example, where it is established in the Hydrology section that there will be an increase in suspended solids in discharged surface waters during construction, then the Biodiversity section should assess the effect of that on sensitive aquatic receptors. Close co-ordination and management within the EIA team is needed to ensure that interactions are adequately addressed throughout an EIAR. Further guidance on this important requirement is contained in [section 4.3](#) Language, Terms & Editorial Notes and in other parts of these Guidelines, including sections [3.3.6](#), [3.7.3](#) and [3.8.1](#).

It is general practice to include a matrix to show where interactions between effects on different factors have been addressed. This is usually done using the actual headings used in the EIAR if these differ from the factors contained in the Directive (ref [section 3.3.6](#)). This is typically accompanied by brief text describing the interactions. Further coverage of this is provided in the Advice Notes<sup>89</sup>.

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89 see [footnote 13](#)

Interaction	Population & Human Health		Biodiversity		Land, Soils & Geology		Hydrology & Hydrogeology		Air Quality & Climate		Noise & Vibration		Landscape		Material Assets		Roads, Traffic & Transportation		Waste Management		Archaeology		Architectural Heritage	
	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.
Population & Human Health			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Biodiversity					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Land, Soils & Geology							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hydrology & Hydrogeology									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Air Quality & Climate											x	x	x	x	x	x	x	x	x	x	x	x	x	x
Noise & Vibration													x	x	x	x	x	x	x	x	x	x	x	x
Landscape													x	x	x	x	x	x	x	x	x	x	x	x
Material Assets															x	x	x	x	x	x	x	x	x	x
Roads, Traffic & transportation																					x	x	x	x
Waste Management																					x	x	x	x
Archaeology																								
Architectural Heritage																								

Con.	Construction Phase	✓	Weak Interaction
Op.	Operational Phase	✓	Some Interaction
x	No Interaction	✓	Strong Interaction

Figure 3.6 Sample Matrix to show Interactions between Factors

## 3.8 MITIGATION & MONITORING (STAGE 7 OF 7)

An EIAR should include:-

### Annex IV(7) of the amended Directive

A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.

### 3.8.1 MITIGATION

#### Overview

Early in the design process assessments are carried out to identify likely significant effects and to integrate mitigation measures into the fundamental design to address potential adverse effects.

Undertakings to mitigate are specific parts of the project that must be complied with – in the same way as features that are described in drawings or specifications.

Therefore, it is in the applicant's interest to ensure that all undertakings to mitigate are fully understood and accepted and the resources will be available to ensure compliance with such commitments.

Non-compliance is increasingly likely to be detected by sophisticated monitoring and post-consent evaluation – leading to likely enforcement proceedings in relation to failure to fully or effectively implement mitigation measures

At an early stage, for projects interacting with significant environmental sensitivities, it may even be of benefit to review whether emerging requirements for mitigation may affect project viability.

The best mitigation measures are fully incorporated into the permitted design and operation of the project. Other mitigation measures may respond to exceedances detected by monitoring and are expressed as 'if/then' measures. These measures clearly set out a sequence of actions and responsibilities that arise on detection of an exceedance, e.g. *'If the BOD levels in the holding pond exceed the ((stated parameter)) then the discharge valve shall be closed until the levels return to permitted levels'*

There are four established strategies for the mitigation of effects - avoidance, prevention, reduction and offsetting. The efficacy of each is related to the stage in the design process at which environmental considerations are taken into account. Effects avoidance is most applicable at the earliest stages, while prevention may be provided up to a much later stage. Mitigation of last resort, such as remedy or offsetting, may be the only option available for largely designed projects or for projects that cannot avoid significant effects due to their need to locate on a particular site.

### Mitigation by Avoidance

Avoidance, usually referring to strategic issues – such as site selection, site configuration or selection of process technology - is generally the fastest, cheapest and most effective form of effect mitigation. Environmental effects and the consideration of alternatives need to be taken into account at the earliest stage in the site / route selection and project design processes. For example, the realignment of transport corridor to avoid residential property, avoid habitat destruction or to reduce agriculture severance etc. In many situations, mitigation by avoidance may be viewed as part of the ‘consideration of alternatives’.

### Mitigation by Prevention

This usually refers to technical measures. Where a potential exists for unacceptable significant effects to occur (such as noise or emissions) then measures are put in place to limit the source of effects to a permissible and acceptable level. Examples include the specification of process technology standards or building design to minimise height or contrasts of materials. Prevention measures are also put in place to prevent the effects of accidental events from giving rise to adverse effects. The installation of a fire-water retention basin is an example of mitigation against such risk by prevention.

### Mitigation by Reduction

This is a very common strategy for dealing with effects which cannot be avoided. It tends to concentrate on the emissions and effects and seeks to limit the exposure of the receptor. It is generally regarded as the ‘end of pipe’ approach because it tends not to affect the source of the problems. As such this is regarded as a less sustainable, though still effective, approach.

#### *Reducing the Effect*

This strategy seeks to intercept emissions, effects and wastes before they enter the environment. It monitors and controls them so that acceptable standards are not exceeded. Examples include wastewater treatment, filtration of air emissions and noise attenuation measures.

#### *Reducing Exposure to the Effects*

This strategy is used for effects which occur over an extensive and undefined area. Such effects may include noise, visual effects or exposure to accidents or hazards. The mitigation is achieved by installing barriers between the location(s) of likely receptors and source of the effects.

### Mitigation by Remedy/ Offsetting

This is a strategy used for dealing with adverse effects which cannot be prevented or reduced. Remedy is compensating for or counteracting adverse effects.

#### *Examples of Remedy*

- ▲ Increased planting of specific trees/shrubs to replace unavoidable loss of vegetation
- ▲ Provision of a new amenity area to compensate for the unavoidable loss of access to the grounds of an old house.

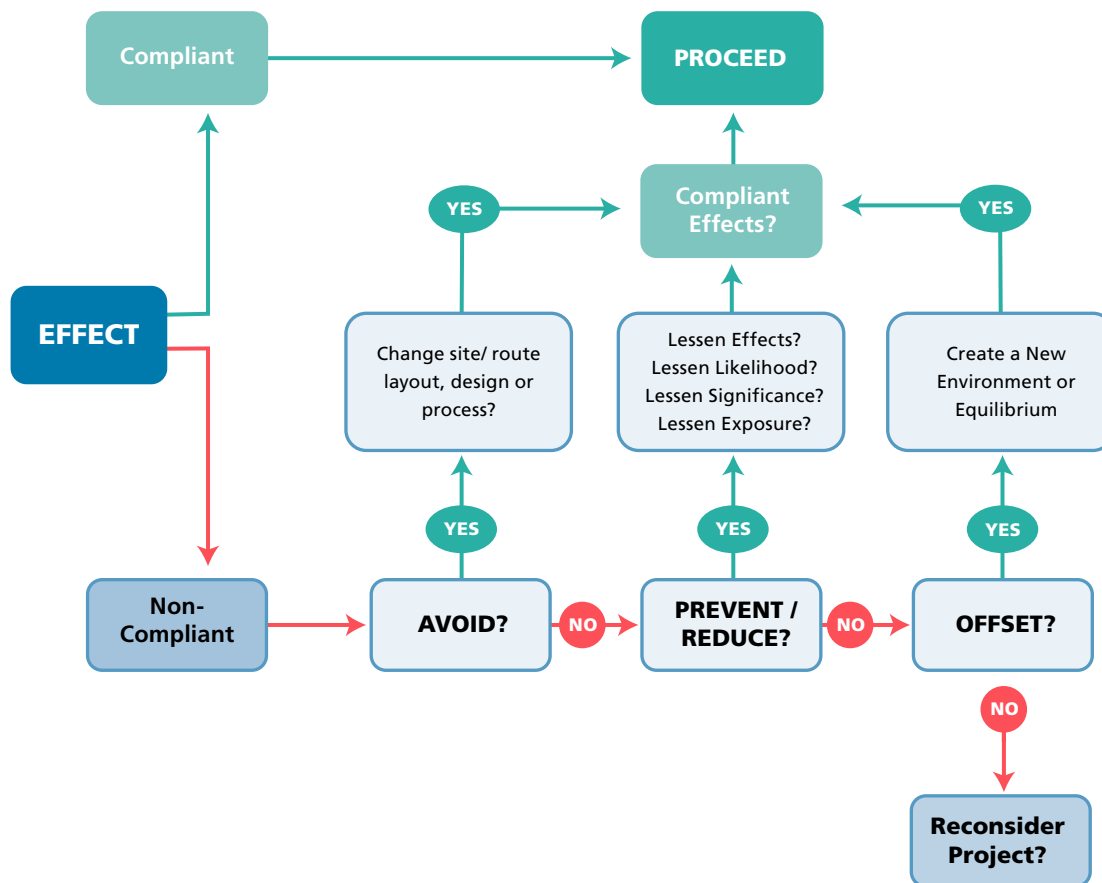
*Offsetting* serves to improve adverse conditions by carrying out further works which seek to restore the environment to an approximation of its previous condition.<sup>90</sup>

#### *Examples of Offsetting*

- ▲ Reinstating buildings, walls or features
- ▲ Introduction of tunnels to enable wildlife to access other comparable habitats.

90 Note that offsetting under the Habitats and Birds Directives may be seen as compensation not mitigation, with very different implications for decision-making (ref. *Grace & anor -v- An Bord Pleanála* 2014/533JR)





For definition of *compliant* as used here see footnote.<sup>91</sup>

**Figure 3.7 Strategies for Identification of Appropriate Mitigation Measures leading to a decision to proceed with the project**

Mitigation measures may unintentionally cause indirect effects, e.g. an acoustic screen wall to mitigate noise effects may have a significant visual impact or waste water treatment to mitigate water quality effects may require disposal of sludge waste. All mitigation measures, including those devised in the latter stages of preparation of an EIA need to be clearly described. Careful co-ordination to ascertain if they need to be referred to or assessed in other sections of the EIA is essential.<sup>92</sup> As an example; road widening mitigation proposals to address traffic congestion may cause impacts on other factors including biodiversity, land, soil, water, air, cultural heritage and the landscape. It is also important to fully consider interactions between impacts and cumulative effects arising from the mitigation measure.

### 3.8.2 MONITORING

It may be appropriate, where relevant, to propose monitoring to take place after consent is granted in order to demonstrate that the project in practice conforms to the predictions made during the EIA.<sup>93</sup>

91 In this context *compliant* means effects that are in accordance with legislation, appropriate guidelines or accepted standards

92 Also ref. [section 3.7.6 Interactions Between Impacts on Different Factors](#)

93 Note that like many other terms used in these Guidelines, the term *monitoring* can mean different things in different contexts. A specific definition of its meaning in the context of Archaeology is given in section 3.3.2 (c) of the *Policy and Guidelines on Archaeological Excavation*, Department of Arts, Heritage, Gaeltacht and the Islands, 1999.

Monitoring provides assurance that proposed systems are operating as intended. This allows adjustments of operations to be made to ensure continued compliance with consent conditions such as emission limit values, conditions of operation, performance criteria/ indicators and detection of unexpected mitigation failures.

It is important to avoid excessive reliance on monitoring because this has the potential to lead to operational changes that fall outside the scope of project that was subject to scrutiny during the consent process. Monitoring post-consent should similarly not be used to allow the deferral of the gathering of information that is necessary for the assessment/consent.<sup>94</sup>

In this context, it is important to ensure that monitoring is described within the context of the operations of the project processes. Monitoring descriptions should refer to remedial actions to be taken; as well as responsible parties, i.e., the developer and/or the consent authority (if monitoring thresholds are exceeded). In this way, all monitoring proposals and actions should be expressed as 'if-then' scenarios.

### 3.8.3 CONSULTATION ABOUT PREDICTED IMPACTS, MITIGATION & MONITORING MEASURES

Once likely impacts are identified it can be useful to consult with the CA or other authorities<sup>95</sup> with responsibility for the relevant environmental characteristics. This can help to determine the practicality, acceptability and enforceability of any mitigation and monitoring measures that are being considered.

### 3.8.4 CLARITY OF MITIGATION & MONITORING MEASURES

The commitment to all mitigation and monitoring measures need to be made clear in the EIAR. Terms such as *...is recommended* or *...should be considered* need to be avoided. All commitments need to be clear and specific.

For ease of reference and clarity and to facilitate enforcement, all such measures contained in an EIAR can be included in a compendium of mitigation and monitoring commitments (only). This may be a separate section or Appendix to the EIAR. Such a compendium should comprise a list of relevant measures but should not elaborate on the reasoning or expected effectiveness of those measures as the elaboration will take place within the main body of the EIAR.

## 3.9 RESIDUAL IMPACTS & CONCLUSIONS

### 3.9.1 RESIDUAL IMPACTS

The Residual Impacts are the final or intended effects which occur after the proposed mitigation measures have been implemented.

It will not always be possible or practical to mitigate all adverse effects. The effects that remain after all assessment and mitigation are referred to as 'Residual Effects'. These are the remaining environmental 'costs' of a project that could not be reasonably avoided. These are a key consideration in deciding whether the project should be permitted or not.

For this reason, it is important that residual effects are clearly described in accordance with the system of effects description as set out previously.

94 ref. *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*, Department of Environment, Community and Local Government, 2013

95 see [footnote 16](#)

### 3.9.2 CONCLUSIONS

The EIAR, or sections of an EIAR, should avoid including a 'Conclusion' section. Instead an EIAR can include a summary of effects, a mitigation and monitoring measures compendium (as described in [section 3.8.4](#)), or a section on 'Residual Impacts,' as described above.

While an EIAR is being scrutinised during the consent determination process, it is not uncommon to encounter a request for an EIAR to provide an overall summary of the effects on the environment – or indeed on one aspect – asking, for example 'describe the overall effect of the proposed project on the landscape of the area' The tendency to try to answer simplistic questions needs to be resisted because it fails to recognise that it is the nature of effects to affect individual, discrete, receptors at specific and separate times.

It can, however, be useful to provide an overview of the ways that the EIA process has helped to avoid reduce or mitigate significant effects of the proposed project. This can be done by including an overview of how the impact assessment and mitigation process has influenced the evolution of the design. This can form part of the section dealing with the consideration of alternatives.

### 3.10 DOCUMENT REVIEW

While it is not provided for in the legislation, all parties can benefit from a pre-application review of a draft EIAR by, the CA or other statutory consultees – who are sometimes assisted by specialist advisors. This can help to identify any resolve any issues before the application is finalised.

Such a review by the CA or other statutory consultees is carried out without prejudice to the subsequent determination.

The principal advantages of this kind of document review can include:-

- ▲ Ensuring that the material submitted will be clearly understood by the public
- ▲ Avoidance requests for additional information during the formal consent application process
- ▲ Clarifying descriptions of residual effects, reference criteria and relevant mitigation proposals
- ▲ Highlighting interactions or conflicts that may not have been evident at the earlier scoping stage.

Such reviews are at the discretion of the relevant authorities because resources may not always be available to facilitate this kind of review and engagement, The CA may review the whole EIAR, while other consultees are unlikely to review sections of the EIAR that fall outside their remit.

Within the EIAR team, ongoing document review is an essential part of an effective EIAR process. Internal reviews should take place throughout the preparation of an EIAR from initial drafts to the application stage. All relevant team members should have roles in reviewing the document before the document is finalised and submitted to a consent process. This should include key specialists who have contributed to the EIAR as well as lead design team members, the project manager and the client. (See sections [2.4](#) and [4.3](#) for more guidance on this essential aspect of EIAR preparation.)

## 4. PRESENTING THE INFORMATION IN AN EIAR

While the amended Directive and the legislation include many requirements about the topics and factors that need to be addressed in an EIAR, there are few requirements regarding the presentation of an EIAR. In practice, the structure of an EIAR tends to follow the same sequence as the requirements set out in the Directive and legislation.

Compliance with the legislation<sup>96</sup> ensures that the information needed for decision makers is available, adequate and accurate.

### 4.1 CONTENT

To assist assessment and increase clarity and the systematic organisation of information in an EIAR; it is good practice to separately describe the:

- i) key alternatives considered
- ii) proposed project
- iii) receiving environment
- iv) likely significant effects
- v) mitigation and monitoring measures and
- vi) residual effects.

A non-technical summary must also be provided (ref [section 4.6](#)).

The receiving environment and the effects of the project are explained by reference to its possible effects on a series of environmental factors:

- ▲ Population and Human Health
- ▲ Biodiversity
- ▲ Land & Soils
- ▲ Water
- ▲ Air
- ▲ Climate
- ▲ Material Assets
- ▲ Cultural Heritage
- ▲ Landscape
- ▲ Interactions.

Different specialist topics may be relevant under some of these factors (ref [section 3.3](#)).

In practice the descriptions of items (iii) to (vi) above are usually addressed under each individual environmental factor (or specialist topic) along with the description of project details which are particularly relevant to that factor (or topic).

Effects address direct, indirect, secondary, cumulative, transboundary, short, medium and long-term, permanent, temporary, positive and negative effects.

Where it has been decided during scoping that a topic is not relevant, then the EIAR should nonetheless include a specific explanation as to why it has been determined that it is not relevant, i.e. why it has been decided that a topic may be 'scoped out'.

96 ref. [webpage](#) (webpage url to be added following transposition)

## 4.2 STRUCTURE

The format, which is a matter for the proponent to determine, should be rational, systematic and should clearly show how it relates to the mandatory requirements. Accessibility and clarity should be key considerations. The non-technical summary can be part of the main EIA document or can be separately bound.

The structure – should ensure that facts and prediction are kept separate. This keeps facts to the forefront and to reduces the potential for bias or selective information.

The typical format starts with an introduction, followed by descriptions of the screening and scoping stages and an overall project description. It then examines each environmental factor (as listed in section 4.1) as a separate section. These sections may contain separate parts or subsections to address the individual headings and/or topics identified during scoping.

## 4.3 LANGUAGE, TERMS & EDITORIAL NOTES

Thorough briefing and editing ensures a consistent and well-integrated EIA. This should greatly improve accessibility and keep the EIA focussed on assessment of the likely significant effects. It should also reduce the possibility of conflicting information being included in the EIA. Inconsistencies can compromise compliance, leading to delays in the consent process or even forming grounds for legal challenge.

The editing role will often identify interactions between issues arising under separate factors which might otherwise not be noticed but which need to be assessed to ensure compliance.

Inclusion of separately prepared assessments for different topics without adequate editing is likely to result in a disjointed EIA. This increases the potential for inconsistencies or for significant interactions with other topics to be overlooked.

Key editing considerations include:

- ▲ The phrases ‘...effects will occur’ or ‘is likely to occur’ are always preferable to terms like *may*, *could*, or *might occur* unless there is a particularly high degree of unavoidable uncertainty about the effects. If it is not possible to provide such definitive statements, then the use of tentative language should be explained.
- ▲ Euphemisms should be avoided (e.g. the description of the clear-felling of mature trees ought not to be described as ‘a woodland management programme’)
- ▲ Terms should be used consistently throughout an EIA. This is particularly important when compiling contributions from different experts into one EIA document. Use terms that have a widely accepted meaning. Specialised or technical terms used in an EIA should be explained so that their usage and meaning is clear to the average non-specialist reader. Where numerous such terms are used then inclusion of a *glossary of terms* can be very beneficial.
- ▲ Repetition should be avoided. For example, avoid repetition of site location and project description information. Similarly the methodology description in each specialist section should avoid repetition of references to the same guidelines.
- ▲ Use of cross referencing should help make the EIA easier to follow, pointing the reader to relevant related material, e.g. to figures, tables or interacting topics. This should also help avoid repetition of material.
- ▲ Footnotes can similarly help make the EIA easier to follow by removing details such as document references, and technical information from the body of the report text.
- ▲ Clear page numbering, logical arrangement and numbering of sections and sub sections improve accessibility. A table of contents that includes lists of tables, figures and appendices will also help to make the EIA easier to navigate.

- Review and editing by a lead author or central editing team should help achieve a consistency of style and format. This increases the legibility and accessibility of the overall EIAR and makes it more useful in the EIA process.

### Illustrations

Illustrations, including maps, plans, sections, diagrams, photographs and sketches can be used to explain aspects of the assessment. Illustrations need to be prepared that will be legible at the scale at which they are included in the EIAR. Drawings that are intended to be printed in large format (e.g. A1 or A0 size) will usually not be sufficiently clear if reduced in the EIAR to A3 or A4 page size. Simplified versions of drawings may need to be separately prepared in order to clearly describe the relevant parts of a project in the EIAR. The date and source of mapping and other externally sourced data used in illustrations should be included where relevant. Clear captions are required to explain the purpose of each illustration.

Illustrations should only be included where they help to explain information that is relevant to the EIAR. So, for example, large sets of floor plans, elevations and process diagrams are rarely helpful in an EIAR and their inclusion may make it harder to find other information that is relevant. Lack of clarity can undermine credibility or lead to requests for additional information.

## 4.4 APPENDICES

Appendices can be useful for including supporting information that is not core to an EIAR but which may nonetheless be required for a more detailed understanding, or technical scrutiny of significant issues. The appendices can be particularly useful for minimising the size of the main EIAR. Inclusion of unnecessary technical data or material such as legislation that may be available elsewhere (online) should be avoided.

For example, the appendix may include a detailed traffic impact assessment report that may contain numerous junction diagrams and engineering calculations while the findings of the report will be accurately summarised in plain language in the main body of an EIAR. This approach helps to keep the main EIAR document clear and succinct.

Where Appendices are used, then cross references to them should be included in the body of the EIAR, to advise the reader of relevant Appendices and of specific relevant material within them.

## 4.5 SIZE

The size of an EIAR will vary as a result of the range and complexity of the significant issues. It is in the interest of all parties for an EIAR to be kept as concise as possible. Excessive length can be a considerable barrier to effective public participation.<sup>97</sup> It is best to keep supplementary or detailed information out of the main volume of the EIAR and present it as an Appendix, separate to the main EIAR document.

The EIAR, together with its appendices ought to generally constitute a self-contained document i.e. direct reliance on references to documentation that is not readily available (e.g. online) is to be avoided.

Topics which are not directly relevant to the EIAR are excluded to maintain focus on environmental matters. For example; material on project justification is generally inappropriate for inclusion in the EIAR or the appendices and is better included elsewhere (in a Planning Application Report for example).

97 The Institute of Environmental Management and Assessment (UK) and Scottish Natural Heritage state that EISs of more than 150 pages should only be necessary for large, complex projects (ref section C.10.4 of *A handbook on environmental impact assessment Guidance for Competent Authorities, Consultees and others involved in the Environmental Impact Assessment Process in Scotland*, Scottish Natural Heritage, 4th Edition, 2013).

## 4.6 NON-TECHNICAL SUMMARY

### Introduction

The regulations include the requirement for a non-technical summary because one of the fundamental objectives of the EIA process is to ensure that the public are made aware of the environmental implications of any decisions about whether to allow new projects to take place. This should be a summary of the information provided under points 1 to 8 in Annex IV of the amended Directive.

While it is a summary it is important to cover the issues that arose in sufficient detail so that the key issues and their implications can be clearly understood.

For larger projects it can be useful to present the non-technical summary as a separate document which can be widely distributed to the public who are likely to be affected by the project.

A non-technical summary of an EIAR is different to and should not be confused with public relations or promotional material which should not form any part of an EIAR (see also [section 2.6](#)).

### Structure and Contents

The non-technical summary is generally laid out in a similar, but condensed, format to the main EIAR, i.e. describing the project, existing environment, effects and mitigation measures etc. The inclusion of clear maps, plans and other illustrations can be useful.

### Language and Terms

The non-technical summary should be short and easily followed, but it should not omit or understate any effects which may be controversial. All key likely significant effects should be included.

Technical terms, abbreviation, references or jargon should not be used.

## 4.7 PRESENTATION / MEDIA

For ease of use, most EIARs are printed in A4 format. A3 format is sometimes used for illustrations to aid legibility and this is considered acceptable. It is best to minimise excessive use of colour illustrations because this impedes making copies available for a reasonable cost.

The copies of an EIAR submitted to accompany a consent application need to be made available in whatever format is required by the CA and in accordance with requirements of the legislation<sup>98</sup>. In addition to the standard requirement for paper copies, it is increasingly useful and acceptable to submit additional copies on digital media. Indeed, provision of digital copies of EIARs is increasingly recognised as being practical because it reduces cost, and facilitates ease of access for the public. In some consent procedures, it is legally required for the applicant to make them available online.

Provision of digital copies also helps the state to meet its obligation under the Directive to make relevant information accessible in electronic format:-

With a view to strengthening public access to information and transparency, timely environmental information with regard to the implementation of this Directive should also be accessible in electronic format. Member States should therefore establish at least a central portal or points of access, at the appropriate administrative level, that allow the public to access that information easily and effectively.

**Recital (18) of  
Directive  
2014/52/EU**

Digital copies should:

- ▲ be a locked format that is laid out and numbered the same as paper copy (normally PDF)
- ▲ be searchable
- ▲ be clearly indexed and labelled
- ▲ ensure that the digital file size readily facilitates uploading and distribution

Internal hyperlinks, e.g. to footnotes and cross references can be useful and aid accessibility provided they does not affect the numbering or arrangement of content.

98 ref also [section 5.1 Scrutiny & Consent](#)



## 5. NEXT STEPS IN EIA PROCESS

After completion of an EIAR, the remaining stages in the EIA process are *scrutiny & consent* and *enforcement & monitoring* (ref. section 2.3). These are not part of the preparation of an EIAR – but are worthwhile considering in order to improve the applicant’s focus on how to present material in a way that facilitates the CA’s role in the EIA process.

### 5.1 SCRUTINY & CONSENT

#### Submission to Competent Authority

Once the EIAR has been completed public notification requirements must be complied with. These will state that an EIAR is being (or has been) submitted with a consent application. For larger or complex projects it can be advisable to discuss the details of these and other requirements with the CA in advance of submission. Discussions can, for example, include the requirements for the number of copies or the most suitable format – for ease of reproduction or display.

#### Competent Authority Assessment

The CA will assess the EIAR to ensure that it is compliant with the requirements of the Regulations. This is usually done by checking that it contains all of the main requirements, as set out in [section 2.4.4](#). Where any of these items are not included, the CA will expect to see an explanation as to why the particular item or items were omitted (for example on account of scoping). The CA will also check that the EIAR was prepared by competent experts (ref. [section 2.5](#)).

The CA consults with certain authorities<sup>99</sup> and with the public to seek their observations or submissions on the review. They must consider these observations as part of the determination process.

The CA assesses the EIAR and other submitted documents to determine whether it has sufficient information on the environmental effects of the project to enable it to make an adequately informed determination. In addition to the legislation and these Guidelines, there are many other sources<sup>100</sup> of reference which the CA may find useful during the review.

#### Competent Authority Decision

The CA can then make one of three decisions, namely to seek further information, grant or refuse the application.

If, during the review, the CA determines that the information presented in an EIAR is not sufficient for it to make a determination, then the developer may be asked to provide further information.

If granting, the CA may attach conditions to the consent. The conditions will typically seek to ensure adherence to mitigation and monitoring measures presented in the EIAR. These may be augmented and modified by the CA.

If refusing the CA may cite specific evidence from the EIAR such as the non-conformity of potential impacts with official standards, impractical mitigation measures or uncertainty about environmental interactions.

99 see [footnote 16](#)

100 Links to some of these sources are included in [webpage](#) (webpage url to be added following transposition)

Article 8a of the Directive specifies various requirements in relation to the making of the decision. These mainly relate to reasoned conclusion, conditions, mitigation measures and monitoring. While some of these requirements are not yet included in domestic regulations, CAs may have regard to them in carrying out their functions.

## 5.2 MONITORING & ENFORCEMENT

1. The decision to grant development consent shall incorporate at least the following information:

....

(b) any environmental conditions attached to the decision, a description of any features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment as well as, where appropriate, monitoring measures.

...

4. In accordance with the requirements referred to in paragraph 1(b), Member States shall ensure that the features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment are implemented by the developer, and shall determine the procedures regarding the monitoring of significant adverse effects on the environment.

The type of parameters to be monitored and the duration of the monitoring shall be proportionate to the nature, location and size of the project and the significance of its effects on the environment.

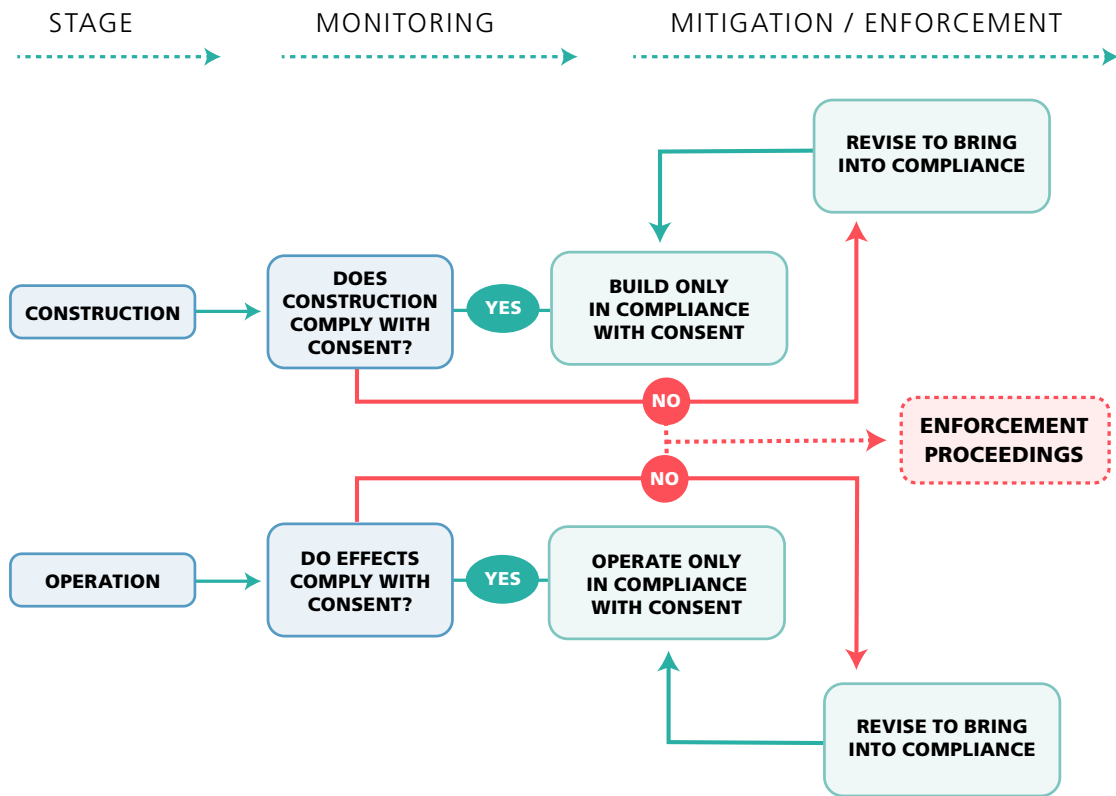
Existing monitoring arrangements resulting from Union legislation other than this Directive and from national legislation may be used if appropriate, with a view to avoiding duplication of monitoring.

### Article 8a of amended Directive

If consent has been granted and the project proceeds, then the developer is obliged to adhere to the specific mitigation measures and monitoring commitments contained in the EIAR<sup>101</sup>, as modified by any conditions attached to the consent.

Applicants are strongly advised to give careful consideration to the wording of undertakings to mitigate – to ensure that they clearly result in actions that can be readily identified by monitoring and acted upon by enforcement procedures.

Monitoring requirements may include reporting to the CA. Where triggers have been attached to monitoring results then relevant mitigation measures are activated as required by the EIAR or consent conditions. This could be during construction, (or commissioning), operations or modifications (or decommissioning or reinstatement).



**Figure 5.1 Monitoring, Mitigation and Enforcement**

Modifications to a project should be subject to screening for further consent requirements including EIA screening. Where they do not require any separate consent then the above monitoring and mitigation considerations apply.

## APPENDIX I – GLOSSARY OF TERMS

This glossary provides standard definitions of terms that may be useful in preparation of EIARs.

### Alternatives

A description of other options that may have been considered during the conception of a project, these include alternative locations, alternative designs and alternative processes.

### Archaeology

The study of past societies of any period through the material remains and the evidence of their environment. The material things (objects, monuments, sites, features, deposits) which archaeology uses to study past societies are referred to as 'archaeological heritage'.

### Baseline Scenario

The current state of environmental characteristics – including any evident trends in its status.

### Baseline Survey

A survey to establish the current state of environmental characteristics.

### Biodiversity

'The variability among living organisms from all sources, including, *inter alia*, terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.'<sup>102</sup>

### Competent Authority (CA)

The term 'competent authority' means the Minister or Public Authority to which an EIAR is required to be submitted, i.e. the authority charged with examining an EIAR with a view to issuing a consent to develop or operate.

### Commissioning

The activities occurring after the construction of a project that occur before it becomes fully operational. On large or complex projects, this can include extended periods of testing, certification and calibration, for instance.

### Decommissioning

The final closing down, and putting into a state of safety of a development, project or process when it has come to the end of its useful life.

### Developer

A term used in the EIA Directive to describe persons or organisations proposing to carry out a project which is subject to the EIA Directive.

### Development

A project involving new works [including alteration and/or demolition] or altered patterns of activity

102 *Convention on Biological Diversity*, Secretariat of the Convention on Biological Diversity, Montreal, Canada, 1992.

### **'Do-nothing' Scenario**

The situation or environment which would exist if a proposed, development, project or process were not carried out. This scenario needs to take account of the continuation or change of current management regimes as well as the continuation or change of trends currently evident in the environment.

### **Ecology**

The study of the relationships between living organisms and between organisms and their environment (especially animal and plant communities), their energy flows and their interactions with their surroundings.

### **Effect**

A change resulting from the implementation of a project.

### **Effluent**

Any liquid discharged from a source into the environment.

### **Environmental Impact Assessment – EIA**

The process of examining the anticipated environmental effects of proposed project - from consideration of environmental aspects at design stage, through consultation and preparation of an Environmental Impact Assessment Report (EIAR), evaluation of the EIAR by a competent authority, the subsequent decision as to whether the project should be permitted to proceed, encompassing public response to that decision.

### **Environmental Impact Assessment Report – EIAR**

A report or statement of the effects, if any, which the proposed project, if carried out, would have on the environment.

### **Environmental Factor**

EIA legislation has defined a number of factors that are used to organise descriptions of the environment. The discussions of the characteristics of the environment in an EIAR are grouped under headings which correspond to these factors or closely related headings (ref. [section 3.3.6 Selection of Headings Under Which to Arrange Issues](#)).

### **Emission**

Under the EPA Act 1992 as amended 'emission' means, in relation to an activity referred to in Part IV, IVA, IVB or IVC, any direct or indirect release of substances, heat or noise from individual or diffuse sources in the activity into the atmosphere, water or land, and includes:-

- a) an emission into the atmosphere of a pollutant within the meaning of the Air Pollution Act, 1987,
- b) the release of a greenhouse gas or a precursor of a greenhouse gas into the atmosphere,
- c) a discharge of polluting matter, sewage effluent or trade effluent within the meaning of the Local Government (Water Pollution) Act 1977, to waters or sewers within the meaning of that Act, or
- d) waste,

but does not include a radioactive substance within the meaning of Council Directive 96/29/Euratom, a genetically modified micro-organism within the meaning of Council Directive 90/219/EEC or a genetically modified organism within the meaning of Directive 2001/18/EC of the European Parliament and of the Council.

**EPA**

The Environmental Protection Agency.

**Geology**

The science of the earth, including the composition, structure and origin of its rocks.

**Ground Water**

The water which flows underground through naturally porous parts of the soil or rock.

**Habitat**

'A habitat is described as the area in which an organism or group of organisms lives, and is defined by the living (biotic) and non-living (abiotic) components of the environment. The latter includes physical, chemical and geographical factors, in addition to human impact or management.'<sup>103</sup>

**Hydrology**

The science concerned with the occurrence and circulation of water in all its phases and modes, and the relationship of these to man.

**Impact**

Change resulting from the implementation of project.

**Impact Avoidance**

The modification of project decisions (about site location or design for example) having regard to predictions about potentially significant environmental effects.

**Industrial Emissions – IE Licence**

Industrial Emissions Directive Activities are defined in Annex I of the Industrial Emissions Directive (Directive 2010/75/EU). These activities were incorporated into the First Schedule to the Environmental Protection Agency Act 1992 by the European Union (Industrial Emissions) Regulations 2013. Industrial Emissions Directive Activities are subject to an Industrial Emissions licensing system administered by the EPA. An IE licence is a single integrated licence which covers all emissions from the installation and its environmental management. More information is available on the EPA website <http://www.epa.ie/licensing/industrialemissionslicensing/#.VQIV3tKsUph>

**Infrastructure**

The basic structure, framework or system which supports the operation of a project for example, installations such as roads and sewers which are necessary to support development projects.

**Integrated Pollution Control – IPC Licence**

IPC licensing applies to certain activities specified in the First Schedule of the Environmental Protection Agency Act 1992 as amended. IPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. An IPC licence is a single integrated licence which covers all emissions from the installation and its environmental management. More information is available on the EPA website.

### **Integrated Pollution Prevention and Control – IPPC (see Directive 96/61/EC)**

This was an EU-wide licensing/enforcement regime for specified activities. It aimed to prevent, reduce, and as far as possible eliminate pollution by giving priority to intervention at source and ensuring prudent management of natural resources, in compliance with the ‘polluter pays’ principle and the principle of pollution prevention. Emphasis was placed on energy efficiency and residuals management. It has been superseded by the Industrial Emissions Directive (Directive 2010/75/EU – see above).

### **Land-use**

The human activities which take place within a given area of space.

### **Likely Effects (or Likely Impacts)**

The effects that are specifically predicted to take place - based on an understanding of the interaction of the proposed project and the receiving environment. (See also *Potential Effects* and *Residual Effects*.)

### **Methodology**

The specific approach or techniques used to analyse impacts or describe environments.

### **Mitigation Measures**

Measures designed to avoid, reduce, remedy or offset impacts. These measures can mitigate impacts:

- ▲ *by Avoidance*  
When no impact is caused (often through consideration of alternatives).
- ▲ *by Prevention*  
When a potential impact is prevented by a measure avoid the possibility of the impact occurring.
- ▲ *by Reduction*  
When an impact is lessened.
- ▲ *by Remedy*  
When an impact is resolved by a remedial action.
- ▲ *by Offsetting*  
When an adverse impact is balanced by a positive impact.

### **Monitoring**

The observation, measurement and evaluation of environmental data to follow changes over a period of time, to assess the efficiency of control measures. This is typically a repetitive and continued process carried out during construction, operation or decommissioning of a project.

### **NGO**

An acronym used to describe Non-Governmental Organisations.

### **Pathway**

The route by which an effect is conveyed between a source and a receptor.

**Planning Application Report**

Documentation that accompanies the planning application that describes the conformity of the proposal with relevant planning matters – such as the County, City or Local Development Plans – and sectoral policies as well as social and economic activity.

**Pollution**

Any release to the environment which has a subsequent adverse effect on the environment or man.

**Potential Effect/ Impact**

The effect / impact that would occur without mitigation.

**Processes**

The activities which take place within a project.

**Project**

For the purposes of the Guidelines, the term *project* is used to encompass the terms *development*, *works* and *activity*, as used in the relevant regulations.<sup>104</sup>

**Reasonably Foreseen**

A working assumption about the future that assumes that a project will be developed as planned and used within a receiving environment that will change in accordance with currently evident trends. It will include a consideration of the likelihood and consequences of abnormal occurrences - such as accidents.

**Receiving Environment**

The likely evolution of baseline environmental characteristics without implementation of the proposed project.

**Receptor**

Any element in the environment which is subject to impacts.

**Residual Effect (or Residual Impact)**

The effect / impact after mitigation.

**Risk Assessment**

An analytical study of the probabilities and magnitude of harm to human health and the environment associated with a biological, physical or chemical agent, activity or occurrence.

**Scoping**

The process of identifying the significant issues which should be addressed by a particular Impact Assessment as well as the means or methods of carrying out the assessment.

<sup>104</sup> These are the terms used for projects which are subject to EIA requirements under the legislation (including the Planning and Development, Foreshore and Industrial Emissions legislation and the EPA Act).



## Screening

The process of assessing the requirement for a project to be subject to Impact Assessment based on project type and scale as well as the significance or environmental sensitivity of the receiving environment.

## Services

The conduits, pipes and lines that carry water, phones, electricity, sewage etc. Sometimes referred to as *built services*.

## Sensitivity

The potential of a receptor to be significantly affected.

## Significance (of factor)

The role or value of an environmental factor in the context of an EIA.

## Significance (of impact)

The importance of the outcome of the impact (or the consequence of change) for the receiving environment.

## Source

The activity or place from which an effect originates.

## Statutory Consultees

An organisation or authority stipulated by legislation to be notified by a CA or developer if an application is made which might give that organisation a cause for concern.<sup>105</sup>

## Surface Water

Natural water bodies such as streams, lakes and rivers and artificial features, such as canals and impoundments, that are visible on the surface of the earth.

## Threshold

The magnitude of a project which, if exceeded, will trigger the requirement for an Environmental Impact Assessment to be carried out.

## Waste Licence

Specified waste activities listed in the 3rd and 4th Schedule to the Waste Management Act 1996 as amended require a Waste Licence from the EPA. A waste licence is a single integrated licence dealing with emissions to all environmental media and the environmental management of the facility.

## Waste Water Discharge Authorisation

A system for the licensing or certification of waste water discharges (WWD) from areas served by Irish Water sewer networks in accordance with the requirements of the Waste Water Discharge (Authorisation) Regulations 2007 as amended. The authorisation process provides for the EPA to place stringent conditions on the operation of such discharges to ensure that potential effects on the receiving water bodies are strictly limited and controlled.

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105 see [footnote 16](#)

## APPENDIX II – KEY CHANGES INTRODUCED BY DIRECTIVE 2014/52/EU

The key differences between Directive [2011/92/EU](#) and the amended Directive (as amended by Directive [2014/52/EU](#)) which will (or may) affect the information to be contained in an EIAR in the Irish context are:

### Screening

- ▲ Provision for a formal screening procedure for Annex II projects, including:
  - ▲ Requirement for Competent Authorities to justify negative screening decisions
  - ▲ Provision for procedures to take account of unsolicited comments at screening stage

### Alternatives

The requirement for assessment of alternatives is changed from

- ▲ ‘An outline of the main alternatives studied by the developer and an indication of the main reasons for this choice, taking into account the environmental effects’
- to
- ▲ ‘a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment’.

### Mitigation and Monitoring

- ▲ Requirement for mandatory implementation of mitigation and monitoring measures.
- ▲ Requirement for incorporation of mitigation and monitoring measures in consents and ensuring that developers deliver these measures.

### Changes to Prescribed Environmental Factors

- ▲ ‘Land’ is added
- ▲ ‘Human Beings’ is replaced by ‘Population & Human Health’
- ▲ ‘Flora & Fauna’ is replaced by ‘Biodiversity’

### Streamlining

- ▲ Requirement to avoid duplication of assessments required under other Directives

### EIA Quality

- ▲ Requirement for quality control in EIA preparation and review (competent expertise).

### Other changes

The amendments also introduce new provisions regarding the need to address, where relevant:

- ▲ demolition works as part of a project description (where relevant)
- ▲ use of natural resources during construction & operation
- ▲ impacts of climate change on a project as well as impacts of a project on climate change
- ▲ protection of the marine environment
- ▲ risks to human health, cultural heritage or the environment (due for example to accidents or disasters)

The report on the environmental impact assessment prepared by or on behalf of the developer has been referred to in the Irish legislation and previous versions of these Guidelines as an Environmental Impact Statement (EIS). Directive 2014/52/EU introduces the term Environmental Impact Assessment Report (EIAR).

The changes introduced by Directive 2014/52/EU are fully described in the Directive. An *informal consolidated version* of the amended Directive is available. This is a useful reference document however it should be noted that it is provided for convenience and does not have legal standing.<sup>106</sup>

Compliance with the amended Directive requires nothing less than was previously required.

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106 A cover note on the informal consolidated version clarifies: 'This document is meant purely as a documentation tool and the institutions do not assume any liability for its contents'.



# AN GHNÍOMHAIREACTH UM CHAOMHNÚ COMHSHAOIL

Tá an Gníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaoil a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaoil a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

## Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

**Rialú:** Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maíthe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.

**Eolas:** Soláthraimid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhíríte agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.

**Tacaíocht:** Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaoil atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaoil inbhuanaithe.

## Ár bhFreagrachtaí

### Ceadúnú

- Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaoil:
- saoráidí dramhaíola (*m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola*);
- gníomhaíochtaí tionsclaíoch ar scála mór (*m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta*);
- an diantalmhaíocht (*m.sh. muca, éanlaith*);
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (*OGM*);
- foinsí radaíochta ianúcháin (*m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíochta*);
- áiseanna móra stórála peitiril;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

### Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhírú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúcháin.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhrámhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídionn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaoil.

### Bainistíocht Uisce

- Monatóireacht agus tuairiscí a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéal uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairiscí a dhéanamh ar Cháilíocht an Uisce Snámha.

## Monatóireacht, Anailís agus Tuairiscí ar an gComhshaoil

- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairiscí neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil (*m.sh. tuairiscí tréimhsiúil ar staid Chomhshaoil na hÉireann agus Tuarascálacha ar Tháscairí*).

## Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn

## Taighde agus Forbairt Comhshaoil

- Taighde comhshaoil a chistiú chun brúnna a shainnithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

## Measúnacht Straitéiseach Timpeallachta

- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaoil in Éirinn (*m.sh. mórpheananna forbartha*).

## Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéal radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as tairmí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

## Treoir, Faisnéis Inrochtana agus Oideachas

- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaoil ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaoil (*m.sh. Timpeall an Tí, léarscáileanna radóin*).
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

## Múscailt Feasachta agus Athrú Iompraíochta

- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

## Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an gníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:

- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair inní agus le comhairle a chur ar an mBord.



Environmental Protection Agency  
*An Ghníomhaireacht um Chaomhnú Comhshaoil*

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# CUSTOM COMPOST

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19<sup>th</sup> July 2016

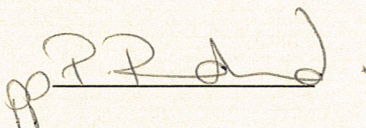
To Whom It May Concern:

**Re: Poultry Litter**

I wish to confirm that Custom Compost accepts all Poultry Litter from Mr Michael Noel O'Connor of Templeglantine, Newcastle West, Co. Limerick.

We will continue to take both new and existing poultry litter arising from the poultry enterprise.

Yours sincerely,



Joe Kenny  
Production Director





STATUTORY INSTRUMENTS.

**S.I. No. 605 of 2017**



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



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

CONTENTS

*PART 1*

PRELIMINARY

ARTICLE

1. Citation, commencement and application
2. Purpose of Regulations
3. Revocations
4. Interpretation

*PART 2*

FARMYARD MANAGEMENT

5. Minimisation of soiled water
6. Collection and holding of certain substances
7. Provision and management of storage facilities
8. General obligations as to capacity of storage facilities
9. Capacity of storage facilities for effluents and soiled water
10. Capacity of storage facilities for pig manure
11. Capacity of storage facilities for poultry manure
12. Capacity of storage facilities for manure from deer, goats and sheep
13. Capacity of storage facilities for manure from cattle
14. Reduced storage capacity in certain circumstances

*PART 3*

NUTRIENT MANAGEMENT

15. Interpretation, commencement etc.
16. Duty of occupier in relation to nutrient management

*PART 4*

PREVENTION OF WATER POLLUTION FROM FERTILISERS AND  
CERTAIN ACTIVITIES

17. Distances from a water body and other issues
18. Requirements as to manner of application of fertilisers, soiled water etc.
19. Periods when application of fertilisers is prohibited
20. Limits on the amount of livestock manure to be applied
21. Ploughing and the use of non-selective herbicides

*PART 5*

GENERAL

22. General duty of occupier
23. Keeping of records by occupier
24. False or misleading information
25. Authorised person
26. Offences and related matters

*PART 6*

FUNCTIONS OF PUBLIC AUTHORITIES

27. Minister for Agriculture, Food and the Marine
28. Making and review of action programme by the Minister
29. Agency
30. Local authorities
31. Compliance with Data Protection Acts
32. Certificate in relation to nutrient content of fertiliser
33. Exemption for exceptional circumstances for research
34. Transitional provisions

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<sup>1</sup>, Directive 2000/60/EC of 23 October 2000<sup>2</sup>, Directive 2003/35/EC of 26 May 2003<sup>3</sup>, Directive 2006/11/EC of 15 February 2006<sup>4</sup>, Directive 2006/118/EC of 12 December 2006<sup>5</sup> and Directive 2008/98/EC of 19 November 2008<sup>6</sup> hereby make the following regulations:

## PART 1

## PRELIMINARY

*Citation, commencement and application*

1. (a) These Regulations may be cited as the European Union (Good Agricultural Practice for Protection of Waters) Regulations 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.

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

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

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

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

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

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

*Notice of the making of this Statutory Instrument was published in "Iris Oifigiúil" of 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 dungsteeds, 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 dungsteeds, 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 dungsteeds, 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 dungsteeds, 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<sup>3</sup> or more of water per day or serving 500 or more persons,
- (b) 100m of the abstraction point (other than an abstraction point specified in paragraph (a)) of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10m<sup>3</sup> or more of water per day or serving 50 or more persons,
- (c) 25m of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (a) or (b),
- (d) 20m of a lake shoreline 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<sup>3</sup> or more of water per day or serving 50 or more persons,
- (b) 15m from the abstraction point in the case of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (a).

(4) Sub-article (3) shall only apply in situations where a local authority 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<sup>3</sup> 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<sup>3</sup> or more of water per day or serving 50 or more persons,

- (b) 50m of any other borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified at paragraph (a),
- (c) 20m of a lake shoreline 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 dungsteeds, 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

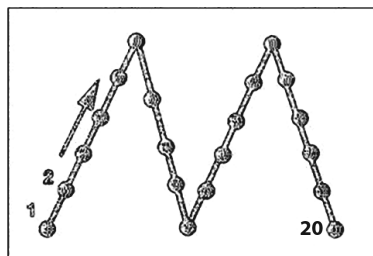
Soil pH shall be determined by measuring pH in a soil:water suspension of 1:2 ratio. Place 10 ml of dried sieved soil and 20 mls of deionised water into a suitable container. Mix thoroughly and allow to stand for at least 10 minutes. Stir for 30 seconds, and allow to settle immediately before recording 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 <sup>3</sup> /week <sup>1</sup>				
	2.0:1	2.5:1	3.0:1	3.5:1	4.0:1
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

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

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

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

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

Table 3 Storage capacity required for dungstead manure

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

<sup>1</sup>Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 4 Average net rainfall during the specified storage period

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

*Article 9*

Table 5 Storage capacity required for effluent produced by ensiled forage

Crop	Minimum storage requirement	
	Short Term Storage <sup>1</sup>	Full Storage
Grass	7	21
Arable silage	7	21
Maize	4	10
Sugar beet tops	15	50

<sup>1</sup>Only permitted where a vacuum tanker or an irrigation system is available on the holding.

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

Table 7 Amount of nutrient contained in 1m<sup>3</sup> of slurry

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

For the purposes of calculation, assume that 1 m<sup>3</sup> = 1,000 litres = 1 tonne.

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

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

Article 15

Table 9 Nutrient availability in fertilisers

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

Table 9A Nutrient availability in compost

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

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

Table 10 Determining nitrogen index for tillage crops

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

Table 11 Phosphorus index system

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

Table 12 Annual maximum fertilisation rates of nitrogen on grassland

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

<sup>1</sup>Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (ha) (grazing and silage area). Stocking rate refers to grassland area only.

<sup>2</sup>The maximum nitrogen fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.

<sup>3</sup>This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted, in accordance with the Nitrates Directive).

<sup>4</sup>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.

<sup>5</sup>The application of nitrogen from livestock manure (including that deposited by the animals themselves) to the eligible grassland area shall not exceed 250 kg nitrogen per hectare per year.

Table 13A Annual maximum fertilisation rates of phosphorus on grassland

Grassland stocking rate <sup>1</sup> (kg/ha/year)	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) <sup>2,3,6</sup>			
<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 <sup>4,5</sup>				
171-210	36	26	16	0
211-250	39	29	19	0
>250	39	29	19	0

<sup>1</sup>Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (grazing and silage area). Stocking rate refers to grassland area only.

<sup>2</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

<sup>3</sup>Manure produced by grazing livestock on a holding may be applied to Index 4 soils on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.

<sup>4</sup>The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.

<sup>5</sup>This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).

<sup>6</sup>An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.



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

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

<sup>1</sup>Total annual nitrogen (kg) excreted by grazing livestock averaged over the eligible grassland area (grazing and silage area). Stocking rate refers to grassland area only.

<sup>2</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

<sup>3</sup>Manure produced by grazing livestock on a holding may be applied to Index 4 soils on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.

<sup>4</sup>The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.

<sup>5</sup>This table does not imply any departure from Article 20(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170kg Nitrogen per hectare per year, including that deposited by the animals themselves (or 250kg in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).

<sup>6</sup>An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.

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

	Available nitrogen (kg/ha)
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) <sup>1,2,3</sup>			
First cut	40	30	20	0
Subsequent cuts	10	10	10	0

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

<sup>2</sup>The fertilisation rates apply to grassland where there is no grazing livestock on the holding.

<sup>3</sup>The fertilisation rates in this table apply to those areas of farms where hay or silage is produced for sale off the holding on farms stocked <85kg grassland stocking rate.

Table 16 Maximum fertilisation rates of nitrogen on tillage crops

Crop	Nitrogen Index			
	1	2	3	4
	Available Nitrogen (kg/ha)			
Winter Wheat <sup>1,2</sup>	210	180	120	80
Spring Wheat <sup>1,2</sup>	160	130	95	60
Winter Barley <sup>1</sup>	180	155	120	80
Spring Barley <sup>1,3</sup>	135	100	75	40
Winter Oats <sup>1</sup>	145	120	85	45
Spring Oats <sup>1</sup>	110	90	60	30
Sugar Beet	195	155	120	80
Fodder Beet	195	155	120	80
Potatoes: Main Crop, >120 days <sup>4</sup>	250	190	170	140
Potatoes: Maincrop/seed, 90-120 days <sup>4</sup>	270	230	210	180
Potatoes: Early, 60-90 days <sup>4</sup>	210	170	150	120
Potatoes: Salad, <60 days <sup>4</sup>	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

<sup>1</sup>Where proof of higher yields is available, an additional 20kg N/ha may be applied for each additional tonne above the following yields:

Winter Wheat — 9.0 tonnes/ha Spring Wheat — 7.5 tonnes/ha

Winter Barley — 8.5 tonnes/ha Spring Barley — 6.5 tonnes/ha

Winter Oats — 7.5 tonnes/ha Spring Oats — 6.5 tonnes/ha

The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.

<sup>2</sup>Where milling wheat is grown under a contract to a purchaser of milling wheat, an extra 30 kg N/ha may be applied.

<sup>3</sup>Where malting barley is grown under a contract to a purchaser of malting barley, an extra 20 kg N/ha may be applied where it is shown on the basis of agronomic advice that additional nitrogen is needed to address a proven low protein content in the grain.

<sup>4</sup>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) <sup>1</sup>			
Winter Wheat <sup>2,3,5</sup>	45	35	25	0
Spring Wheat <sup>2,3</sup>	45	35	25	0
Winter Barley <sup>2,3,5</sup>	45	35	25	0
Spring Barley <sup>2,3</sup>	45	35	25	0

Crop	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) <sup>1</sup>			
Winter Oats <sup>2,3,5</sup>	45	35	25	0
Spring Oats <sup>2,3</sup>	45	35	25	0
Sugar Beet	70	55	40	20
Fodder Beet	70	55	40	20
Potatoes: Main Crop	125	100	75	50
Potatoes: Early	125	115	100	50
Potatoes: Seed/Salad	125	115	100	85
Maize	70	50	40	20 <sup>4</sup>
Field Peas	40	25	20	0
Field Beans	50	40	20	0
Oil Seed Rape	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

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

<sup>2</sup>Where proof of higher yields is available, an additional 3.8kg P/ha may be applied on soils at phosphorus 1, 2, or 3 for each additional tonne above a yield of 6.5 tonnes/ha. The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.

<sup>3</sup>Where pH is greater than or equal to 7, 20kg P/ha may be applied on soils at phosphorus index 4.

<sup>4</sup>Must be incorporated prior to or during sowing.

<sup>5</sup>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) <sup>1</sup>			
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) <sup>1</sup>			
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

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

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

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

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

	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) <sup>1</sup>			
Apples (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) <sup>1</sup>				
Gooseberries	20	16	12	8
Raspberries	20	16	12	8
Strawberries	16	8	4	0
Redcurrants	20	16	12	8
Loganberries	20	16	12	8
Blackberries	20	16	12	8

<sup>1</sup>The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils.

Table 22 Phosphorus excess limits Article 34

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



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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