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APPROPRIATE ASSESSMENT SCREENING REPORT

WOODVILLE PIG FARMS LIMITED, BALLYMACKEY, NENAGH, CO. TIPPERARY

2019

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1.0 INTRODUCTION

This Appropriate Assessment Screening Report has been prepared by Panther Environmental Solutions Ltd., to accompany an application for planning permission to Tipperary County Council for the proposed demolition of three old pig housing units, the construction of one pre-finisher house, an extension to two existing farrowing units, the construction of one main large building to house weaner stage pigs, the construction of an uncovered slurry reception tank and all associated site development works at Woodville Pig Farms Ltd, Ballymackey, Co. Tipperary.

This Appropriate Assessment Screening Report has been prepared with regard to the European Communities (Natural Habitats) Regulations 1997 (S.I. No. 94 of 1997), and the later amendment regulations (S.I. No. 233 of 1998; S.I. No. 237 of 2005).

A study was undertaken by Lorraine Wyse (BSc Environmental Science and Health, Diploma in Field Ecology) of Panther Environmental Solutions Limited. This comprised a review of the proposed development, a site visit on the 25th of September 2019 to examine the ecological context of the proposed development, a desk study of the information on European sites within the potential zone of influence of the site and an analysis of the information in the context of the guidance to determine if a Natura Impact Statement is required.

2.0 LEGISLATIVE CONTEXT

The EU Habitats Directive (92/43/EEC) on the conservation of natural habitats and of wild fauna and flora, as amended by council directive 97/62/EC, 2006/105/EC, and Regulation EC1882/2003 of September 2003, as transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/11), provides the framework for legal protection for habitats and species of European importance.

Article 6(3) and 6(4) of the Habitats Directive lays down the procedure to be followed when planning new developments that might affect a Natura 2000 site. Article 6(3) of the Habitats Directive states;

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

Article 6(4) would come into force following a determination that a plan or project may adversely affect the integrity of a Natura 2000 site.

In Ireland, the implementation of these provisions of the EU Habitats Directive occurs in four stages:

Stage 1: Screening for Appropriate Assessment
This stage involves an initial screening assessment of the potential impacts of the project, either alone or in combination with other projects, upon a Natura 2000 site. If it can be concluded that there would be no significant impacts upon Natura 2000 sites, the assessment stops at this stage. If not, or if further assessment is required, the assessment proceeds to Stage 2.

Stage 2: Appropriate Assessment / Natura Impact Statement (NIS)
This stage assesses the impact of the project, alone or in combination with other projects or plans, on the integrity of the Natura 2000 site, with respect to the site's conservation objectives, the site's ecological structure and function and its overall integrity. The output of this stage is an NIS, which also includes any mitigation measures required to avoid, reduce or offset negative impacts of the project. If this stage determines that adverse effects on the Natura 2000 site cannot be excluded, then the plan or project should proceed to Stage 3 or be abandoned.

Stage 3: Assessment of Alternative Solutions
A detailed investigation is undertaken in this stage to determine whether alternative ways of achieving the objectives of the project or plan exist. Where no alternatives exist, the project or plan must proceed to Stage 4 or must be abandoned.

Stage 4: Assessment where no Alternatives Exist and where Adverse Impacts Remain
This is the final stage of the process, and is an assessment of compensatory measures where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

These safeguards are intended to ensure that future plans or projects are not authorised if they are likely to adversely affect the integrity of a Natura 2000 site. Significant impacts may include, but are not exclusive to, a loss of habitat area, fragmentation of the habitat, disturbance to species using the site and changes in water resources or quality.

3.0 SCREENING FOR APPROPRIATE ASSESSMENT

Screening is the first stage in the Appropriate Assessment process, and is carried out to determine the necessity for a more detailed Natura Impact Statement (Stage 2) where potential impacts are deemed to be of significance. Screening addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3);

1. Whether a plan or project is directly connected to or necessary for the management of the Natura 2000 site; and

2. Whether a plan or project, alone or in combination with other plans or projects, is likely to have significant effects on a Natura 2000 site, in view of its conservation objectives.

Screening should be undertaken without the inclusion of mitigation measures. If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 NIS.

The findings and conclusions of the screening process should be documented, with the necessary supporting evidence and objective criteria. This is of particular importance in the cases where the Appropriate Assessment process ends at the screening stage because the conclusion is that no significant effects are likely.

Screening for Appropriate Assessment involves:

- Description of the project and area characteristics (existing environment);
- Identification and description of Natura 2000 sites that could potentially be affected, and compilation of information on their qualifying interests and conservation objectives;
- Assessment of likely effects – direct, indirect and cumulative, undertaken on the basis of availability of objective information as necessary;
- Screening statement with conclusions.

4.0 DESCRIPTION OF PROPOSED DEVELOPMENT AND EXISTING SITE

4.1 PROPOSED DEVELOPMENT

The applicant, Woodville Pig Farms Ltd., operates an existing pig facility at the Ballymackey site, located approximately 2.7km to the north-east of Ballymackey village, Co. Tipperary, as shown in Figure 4.1 below. The facility is located in a rural and agricultural area, with intermittent residential development predominantly aligned along the existing road network.

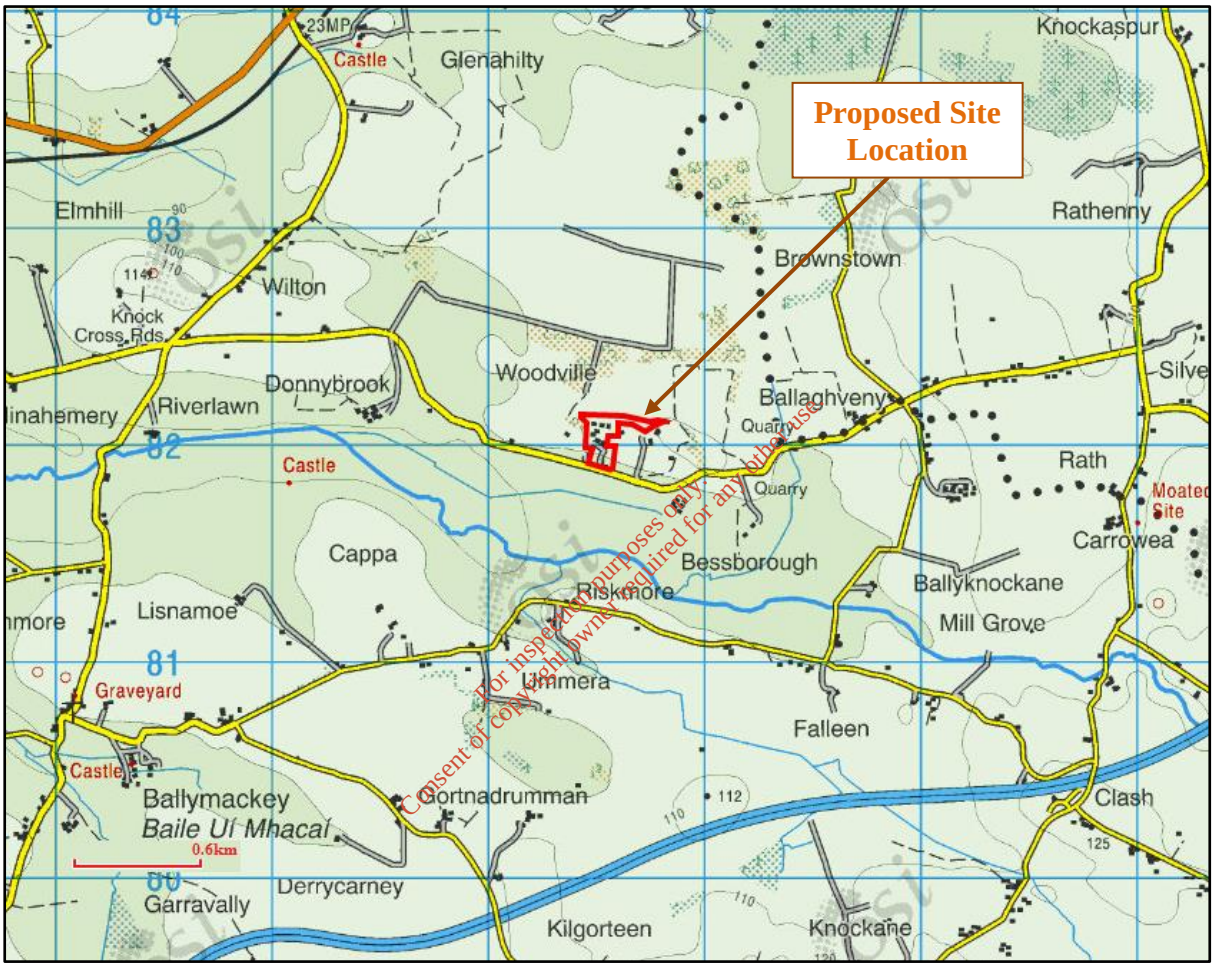

Figure 4.1: Location of Proposed Development at Ballymackey, Co. Tipperary.

The applicant's site measures approximately 5.55 hectares, and includes a site office and canteen, dwelling house, sow house, farrowing houses, gilt houses, weaner house, stores and yard areas.

An IPPC License Reg. No. P0467-01 was issued by the Environmental Protection Agency (EPA) in March 2000 to the Woodville Pig Farms Ltd. for 147 farrowing sows, 473 dry sows, 75 gilts, 8 boars, 2400 weaners and 3000 fattening pigs. In 2002, Woodville Pig Farms Ltd. purchased an existing pig facility at Ballyknockane with a capacity for 8000 fattening pigs. Following communication with the EPA, approval was issued to adjust the stock numbers of this IPPC License to 220 farrowing sows, 700 dry sows, 109 gilts, 12 boars, 3850 weaners and finishing stock would be transferred to the associated pig finishing unit in Ballyknockane. The revised IPPC licence (Ref .No. P0467-02) was issued in July 2012,

allowing 220 farrowing sows, 700 dry sows, 109 gilts, 12 boars, 3,850 weaners and 8,000 finishing pigs.

The proposed development would include the demolition of a gilt house, two weaner houses and one first stage weaner house, and the construction of a second stage weaner house, an extension to Farrowing House Unit 1 with additional farrowing sow accommodation, the conversion of Farrowing House Unit 2 to loose sow accommodation, the extension of Unit 2 to provide additional weaner accommodation, the construction of a new pre-finisher house for slow-growing pigs and the construction of a slurry reception tank, and all associated site development works at the Woodville Pig Farms Ltd. site. The proposed development would occur on the Woodville property alone. There would be no alterations to structures at the Ballyknockane site as a result of this proposed development. The site's EPA license would be required to be reviewed by the EPA if planning permission is granted for this proposal.

The current number of pigs at both the Woodville site and Ballyknockane site, in addition to the proposed numbers, are included within the table below.

Table 4.1: Current and Proposed Maximum Animal Numbers.

ANIMAL CLASS	EXISTING EPA LICENSED NO. OF PIGS NOTE 1, 2	PROPOSED NO. OF PIGS
WOODVILLE		
Dry Sows / Farrows / Suckling Sows	920	1,650
Weaners	3,850	8,400
Pre-Finisher	--	4,200
BALLYKNOCKANE		
Finisher Pigs	8,000	8,000

Note 1: This excludes suckling pigs maintained on site.
Note 2: A 20% increase in the number of production pigs (finishers) held on site, for a period not exceeding 2 weeks, is permissible. The frequency of such occurrences must be kept to a minimum. Any other variation in any of the animals numbers specified requires prior agreement from the Agency.

The demolition stage of the proposed development would involve the demolition of the gilt house, two weaner houses and one first stage weaner house, with a total approximate footprint of 1,390 m^2. The proposed structures / extensions to structures and their associated footprints are provided in the table below.

Table 4.2: Proposed Structures / Extensions and Associated Footprints.

PROPOSED STRUCTURE / EXTENSION	APPROX. FLOOR AREA (M2)
Farrowing House	792
Weaner House	359
Second Stage Weaner House	4,517
First Stage Weaner House	(part of the Second Stage Weaner House
Pre-finisher House	1,190
Slurry Reception Tank	316.2
Total	**7,174.2**

Stormwater from the site, comprised of rainwater run-off from roofs, is directed to a central stormwater pipe which discharges to the Wilton Stream. There is one surface water monitoring point located on this system, SW2. In accordance with the site's Industrial Emissions Licence, surface water is inspected weekly at SW2 and sampled quarterly. Stormwater from the proposed structures would connect to this existing stormwater network.

The site currently produces pig slurry as an animal by-product. The storage and use of animal slurry and manure as a fertiliser is controlled under European Union (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 605 of 2017) (commonly referred to as the Nitrates Regulations).

Slurry generated at the existing structures onsite is directed to one of four slurry reception locations onsite, comprising of underground slurry storage tanks. Slurry produced by animals in the proposed structures would be collected and stored within slurry tanks beneath the structures. For the Second Stage Weaner House and the Pre-Finisher House, additional storage would be provided by the proposed slurry reception tank.

All soiled water produced on site (i.e. rainwater on dirty yards and water which has been used to clean down pig pens between batches) is diverted to the nearest slurry tank where it is treated as slurry. Pig pens would be washed down at least once a week between batches. There would be no discharge of any soiled water or any effluent from the site to any watercourse or to groundwater.

The existing and proposed slurry tanks conform to a recognised design standard for slurry storage, i.e. The Irish Department of Agriculture and Food Specifications S123 (*Minimum Specification for Bovine Livestock units and Reinforced Tanks*) March 2006.

The existing slurry tanks are fitted with leak detection systems. The new slurry tanks would also include an approved sub-floor leak detection system as a method of monitoring to ensure there is no source of pollution in the vicinity from the slurry tanks. The subfloor leak detection system would consist of slotted drains (100 mm PVC pipes laid to falls in a herring bone arrangement beneath the floor of the slurry tank. These pipes would feed to an inspection chamber of standard manhole construction with fully plastered impervious internal walls. Integrity assessment of the slurry tank would be carried out through periodic sampling and analysis of liquid contained in specifically constructed monitoring chambers.

Given the capacity of existing slurry storage tanks and the proposed storage tanks, the current and proposed storage facilities would have sufficient capacity to accommodate the increase in slurry due to the proposed development, in compliance with Article 10 of the European Union (Good Agricultural Practice for Protection of Waters) Regulations (S.I. No. 605 of 2017).

Slurry from the site is currently, and would continue to be, collected periodically by customers (i.e. local farmers) for the purpose of land spreading. The spreading of by-product pig slurry on land to supply fertiliser nutrients is provided for and is controlled under the European Union (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 605 of 2017 and Directive 91/676/EEC), a.k.a. the Nitrates Regulations.

The applicant intends to avail of a new modern design for low atmospheric emissions in the new weaner and pre-finisher structures. A modified slurry cooling system would be installed

in the newly constructed slurry tanks beneath the proposed new weaner house and pre-finishing house. The cooling system would be incorporated into the traditional fully slatted house system. Cooling of pig slurry significantly lowers ammonia emissions, and other emissions including odours, from the stored slurry.

The estimated timeframe for the construction of the proposed development is 3-4 months. Construction works would be confined to the proposed development footprint. During the construction phase, site clearance works would be undertaken, which would involve the removal of a small area of scrub habitat from the proposed development footprint and earth-moving activities. During excavation works, subsoil and topsoil would be segregated and temporarily stored onsite. Excavated soils would be re-used in landscaping and reinstatement works.

4.2 EXISTING ENVIRONMENT

The development site is located within a rural area, in an area primarily dominated by pasture, arable land and peatland. The nearest watercourse to the development site is the Wilton Stream, located approximately 135m to the south of the site. A number of one-off residences and farmyard complexes exist in the area.

According to the Preliminary Flood Risk Assessment (PFRA) Mapping prepared by the OPW, the development site is not located within an area of groundwater flood, pluvial flood or fluvial flood, indicative of 1% AEP (100-yr) event or 0.1% AEP (1000-yr) event. However, it should be noted that this map is based on broad-scale simple analysis and may not be accurate for a specific location.

The development site is located within the Ballysteen Formation, comprising of Lower Impure Limestone, with Kelly (2003) noting that "*groundwater movement is mainly restricted to the weathered and shallow subsurface zone… Flow paths are thought to be short, with groundwater discharging to nearby streams and springs. The limited fracturing restricts groundwater storage and movement…*"

A site characterisation assessment was undertaken on the 25th of September 2019 to examine the ecological context of the development site, by systematically walking the site and boundaries and determining the habitats present. The habitat survey was undertaken in accordance with the standard methodology outlined in Fossitt's "*A Guide to Habitats in Ireland*", a hierarchical classification scheme based upon the characteristics of vegetation present. The Fossitt system also indicates when there are potential links with Annex I habitats of the E.U. Habitats Directive (92/43/EEC). Cognisance was also taken of the Heritage Council guidelines, "*Best Practice Guidance for Habitat Survey and Mapping*", (Smith *et al.*, 2011).

Bird species and signs of fauna activity and dwellings were also noted. Particular attention was given to the possible presence of habitats and/or species, which are legally protected under Irish and European legislation.

During the site walkover, eight main habitats were identified. The dominant habitat onsite was identified as buildings and artificial surfaces (BL3) habitat, comprising of the site office

and canteen, dwelling house, sow house, farrowing houses, gilt houses, weaner houses, stores and yard areas (both gravel and hardstanding). Little to no vegetation was present.

Small sections of recolonising bare ground (ED3) habitat were noted adjacent the piggery houses and along access ways, in addition to an area to the front of the site office and canteen building. Flora present included abundant Short-fruited Willowherb (*Epilobium obscurum*), and occasionally recorded Common Field-speedwell (*Veronica persica*), Common Mouse-ear (*Cerastium fontanum*), Daisy (*Bellis perennis*), Dandelion (*Taraxacum* spp.), Dove's-foot Crane's-bill (*Geranium molle*), Groundsel (*Senecio vulgaris*), Redshank (*Persicaria maculosa*), Sow-thistle (*Sonchus* spp.), Thistle (*Cirsium* spp.), White Clover (*Trifolium repens*) and various grasses.

A section of recolonising bare ground (ED3) habitat was also recorded to the east of the existing piggery houses, where an area has disturbed in recent times. Flora recorded was similar to that recorded within ED3 habitat elsewhere onsite, and included frequently recorded Bramble (*Rubus fruticosus*), Nettle (*Urtica dioica*) and Willow (*Salix* spp.), and occasionally recorded Common Mouse-ear, Herb-Robert (*Geranium robertianum*), Rosebay Willowherb (*Chamerion angustifolium*), Short-fruited Willowherb and Thistle.

Amenity grassland (improved) (GA2) habitat is present within the southern portions of the development site, adjacent the site office / canteen building and dwelling house. This habitat is dominated by cultivated grass species, with some Buttercup (*Ranunculus* spp.), Daisy, Ribwort Plantain (*Plantago lanceolata*) and Red and White Clover (*Trifolium pratense* and *T. repens*).

An area of grassland was noted in the northern portion of the development site, best characterised by wet grassland (GS4) habitat, mainly comprised of various grasses, including Bent grasses (*Agrostis* spp.), Ryegrasses (*Lolium* spp.) and Yorkshire Fog (*Holcus lanatus*), Nettle, Soft Rush (*Juncus effusus*) and Thistle. Other flora present in lower abundance included Cleavers (*Galium aparine*), Creeping Buttercup (*Ranunculus repens*), Dock (*Rumex* spp.) and Short-fruited Willowherb.

A small section of scrub (WS1) is present within the wet grassland area, dominated by Willow and with some occasional Ash (*Fraxinus excelsior*) also present. Ground and field layer flora was comprised of the same flora recorded for the wet grassland area.

Sections of hedgerows (WL1) habitat are present in the southern section of the development site. The section of hedgerow running in a north-south orientation between the site office and the dwelling house was comprised of a mixture of native and garden-variety species, including Apple (*Malus domestica*), Ash, Cherry Laurel (*Prunus laurocerasus*), Hawthorn (*Crataegus monogyna*), Hazel (*Corylus avellana*), Leyland Cypress (*Cuprocyparis leylandii*) and Snowberry (*Symphoricarpos albus*). Ground and field flora included Bramble, Cleavers, Dandelion, Dog-rose (*Rosa canina agg.*), Ivy (*Hedera helix*) and Nettle.

Hedgerows (WL1) habitat along the southern site boundary, adjacent the roadway, was mainly comprised of native species, and included Ash, Elm (*Ulmus* sp.), Hawthorn and Hazel. Two mature trees were noted in this section, one mature Ash tree and one mature Beech (*Fagus sylvatica*) tree. Other flora species recorded included Bramble, Cow Parsley (*Anthriscus sylvestris*), Dock, Dog-Rose and Nettle.

The remainder of hedgerows (WL1) habitat onsite was comprised entirely of Leyland Cypress, with Bramble and Ivy recorded in low abundance.

Treelines (WL2) habitat was noted along the eastern site boundary, mainly comprised of Elder (*Sambucus nigra*), Sitka Spruce (*Picea sitchensis*) and Scot's Pine (*Pinus sylvestris*), with a recently planted row of Cherry Laurel. Other tree / shrub species noted included Beech, Hawthorn, Hazel, Holly (*Ilex aquifolium*), Sycamore (*Acer pseudoplatanus*) and Willow. Other flora included Bramble, Cleavers, Dock, Herb-Robert, Ivy, Nettle, Ribwort Plantain, Thistle and Vetch (*Vicia* spp.).

Areas of woodland were recorded to the west and east of the existing piggery buildings. These areas of woodland are best characterised as broadleaved woodland (WD1) habitat, being mainly comprised of Beech, with occasionally recorded Ash, Elder and Sycamore. Tree / shrubs recorded in lower abundance included Holly, Horse-chestnut (*Aesculus hippocastanum*), Leyland Cypress, Lime (*Tilia* spp.) and Willow. Other flora encountered included Bramble, Cow Parsley, Dock, Dog-Rose, Herb-Robert, Hogweed (*Heracleum sphondylium*), Ivy, Nettle and Thistle.

The majority of the site, comprising of buildings and artificial surfaces, amenity grassland and recolonising bare ground, can be considered to be modified and of low ecological value. The remainder of the habitats at the site, including hedgerows, treelines, woodland, scrub and wet grassland, can be considered to be of moderate to high ecological value. No plant species of conservation significance or invasive plant species were noted during the site assessment.

The identified habitats at the proposed development site, as per the Fossitt habitat classification scheme, are summarised in Table 4.3 below.

Table 4.3: Summary of Habitats Identified at the Proposed Development Site

HABITAT CLASSIFICATION HIERARCHY		
LEVEL 1	**LEVEL 2**	**LEVEL 3**
G – Grassland and marsh	**GA** – Improved grassland	**GA2** – Amenity grassland (improved)
	GS – Semi-natural grassland	**GS4** – Wet grassland
W – Woodland and scrub	**WD** – Highly modified / non-native woodland	**WD1** – Broadleaved woodland
	WS – Scrub / transitional woodland	**WS1** – Scrub
	WL – Linear woodland / scrub	**WL1** – Hedgerows
		WL2 – Treelines
E – Exposed rock and disturbed ground	**ED** – Disturbed ground	**ED3** – Recolonising bare ground
B – Cultivated and built land	**BL** – Built land	**BL3** – Buildings and artificial surfaces

Given the agricultural land use of the surrounding area, it would be expected that common grassland and hedgerow species would be present in the area. Bird species noted during the site walkover included Blackbird (*Turdus merula*), Blue Tit (*Parus caeruleus*), Chaffinch

(*Fringilla coelebs*), Collard Dove (*Streptopelia decaocto*), Dunnock (*Prunella modularis*), Great Tit (*Parus major*), Magpie (*Pica pica*), Pied Wagtail (*Motacilla alba*), Robin (*Erithacus rubecula*), Rook (*Corvus frugilegus*), Starling (*Sturnus vulagaris*), Swallow (*Hirundo rustica*), Woodpigeon (*Columba palumbus*) and Wren (*Troglodytes troglodytes*). No species are red listed under the BoCCI classification, while three species are amber listed: Robin, Starling and Swallow. None of the bird species recorded are listed under Annex I of the E.U. Birds Directive.

Mammals, typical of that found throughout the rest of Ireland, which would be expected to be found in the general area include Badger (*Meles meles*), Fox (*Vulpes vulpes*), Otter (*Lutra lutra*), Pine Marten (*Martes martes*), Stoat (*Mustela erminea hibernica*), American Mink (*Mustela vison*), Irish Hare (*Lepus timidus hibernicus*), Rabbit (*Oryctolagus cuniculus*), Hedgehog (*Erinus europaeus*), Red Squirrel (*Sciurus vulgaris*), Wood Mouse (*Apodemus sylvaticus*), Pygmy Shrew (*Sorex minutus*), Greater White-toothed Shrew (*Crocidura russula*), Brown Rat (*Rattus norvegicus*), Bank Vole (*Myodes glareolus*), and Fallow Deer (*Dama dama*).

No fauna, or evidence of fauna, were observed during the site walkover. In the absence of aquatic habitats within the development site itself, the site would have limited potential to support aquatic species. There was no evidence of otter, including spraints, tracks or holts, at the development site.

In addition to the site walkover, flora and fauna records were reviewed on the National Biodiversity Data Centre (NBDC) website for the proposed development site and vicinity. No protected flora species under the Flora (Protection) Order, 2015 (S.I. No. 356 of 2015) were recorded for the thirty years previous for the 10km square (R98) in which the proposed development site is located, while records were returned for three invasive flora species listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011); Giant-rhubarb (*Gunnera tinctoria*), Japanese Knotweed (*Fallopia japonica*) and *Rhododendron ponticum*.

Fauna records for the previous thirty years were reviewed on the NBDC website for the two 2km squares (R98Q and R98R) in which the proposed development is located. Bird species of note recorded include Swallow, House Martin (*Delichon urbicum*), Sand Martin (*Riparia riparia*), Starling, House Sparrow (*Passer domesticus*), Great Black-backed Gull (*Larus marinus*), Herring Gull (*Larus argentatus*) and Woodpigeon. Fauna of note include the protected species Freshwater White-clawed Crayfish (*Austropotamobius pallipes*), Marsh Fritillary (*Euphydryas aurinia*), Badger and Hedgehog.

4.2.1 Additional Information on Water Quality

The proposed development is located within the Lower Shannon catchment (25C) and the Ollatrim_SC_010 sub-catchment.

As noted above, the Wilton Stream (also referred to as the Ballaghveny Stream) and Ollatrim River are located approximately 125m and 350m south of the site respectively. Stormwater drainage from the development site is directed to a field drain, which travels for approximately 135m prior to joining with the Wilton Stream. From here, the Wilton Stream travels approximately 1.27km before joining with the Ollatrim River. The Ollatrim River converges with the Nenagh River approximately 10.75km downstream from the

Wilton confluence, which in turn flows to Lough Derg approximately 10.25km from the confluence with the Nenagh River.

The Ollatrim River, Nenagh River or Lough Derg are not designated as a Salmonid Water under EC (Quality of Salmonid Waters) Regulations (S.I. No. 293 of 1988).

Lough Derg is designated as the Lough Derg, North-east Shore Special Area of Conservation (SAC) (Site Code: 002241). The proposed development site is therefore located approximately 22.4km upstream from the Lough Derg, North-east Shore SAC.

The Environmental Protection Agency (EPA) undertake surface water monitoring along the River Ollatrim. The results for the nearest monitoring stations with available information (as per Table 4.4) for the period 1996 – 2018 are summarised in Figure 4.2 below for indicative purposes.

Table 4.4: Monitoring Stations of the Ollatrim River within the Vicinity of the Development

STATION NO.	STATION LOCATION	EASTING	NORTHING	APPROX. LOCATION RELATIVE TO WILTON CONFLUENCE
RS25O010150	Bridge d/s Ollatrim Br	198849	180965	4.1km Upstream
RS25O010250	Bridge Nr Riverlawn House	194208	181932	1.1km Upstream

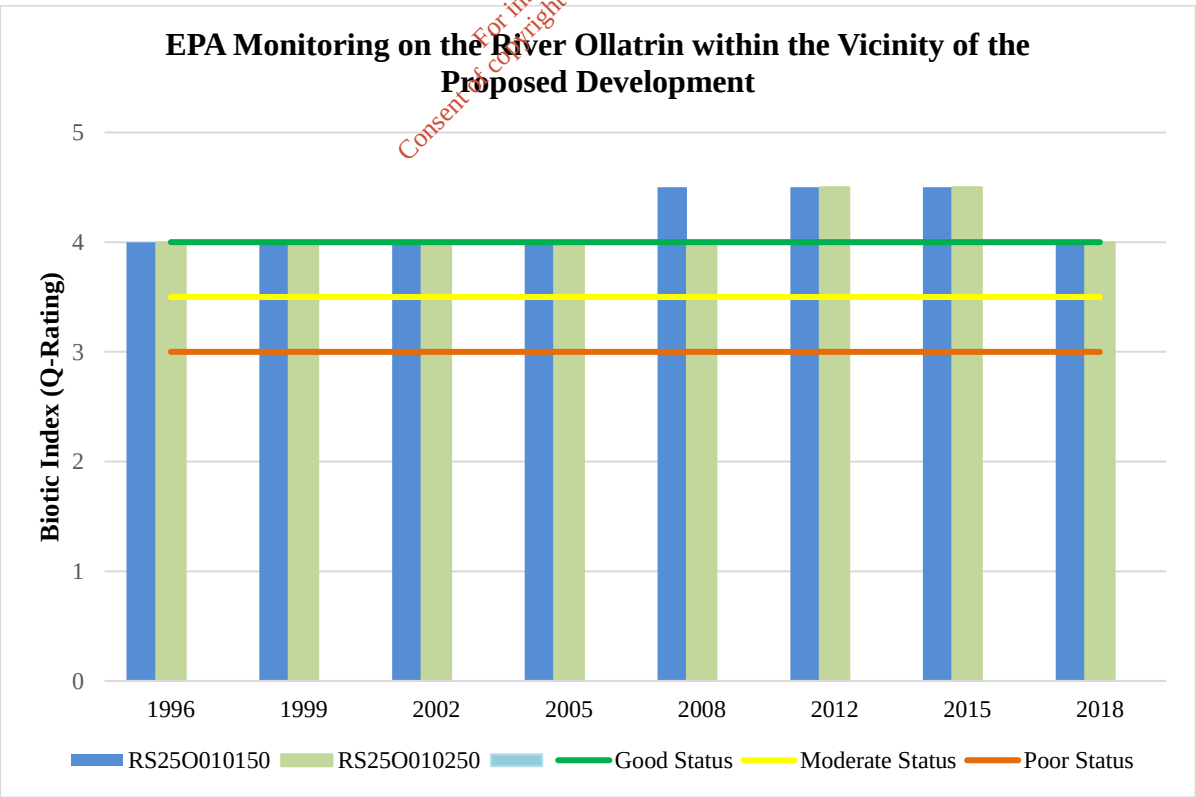

Figure 4.2: EPA Ecological Monitoring of the River Ollatrim from 1996 – 2018

As can be seen in Figure 4.2 above, the River Ollatrim at the two monitoring stations has achieved a water quality status ranging between Q4 (good) to Q4-5 (high) from 1996 – 2018, with recent monitoring showing a water quality status of Q4 (good).

The EPA, 2013 "*Report on Water Quality in Tipperary 2013*" report notes that agriculture is the key pressure on water quality of the Ollatrim River.

As part of water quality monitoring at the adjacent Ballaghveny Landfill site (Industrial Emissions Licence No. W0078-03), Conservation Services, Ecological & Environmental Consultants were commissioned by Tipperary County Council to undertake biological monitoring of surface water quality on the Wilton Stream (also referred to as the Ballaghveny Stream) and the Ollatrim River. The results for the years 2016, 2017 and 2019 is available on the EPA website. A summary of the results, in addition to the distance relative to the Woodville Pigs Ltd. site where possible, is included in the table below.

Table 4.4: Biological Monitoring within the Vicinity of the Development

SAMPLING LOCATION	LOCATION RELATIVE TO DEVELOPMENT SITE	Q-RATING		
		2016	2017	2019
Site A (Wilton Stream)	Upstream of Woodville Pig Farms Ltd. stormwater discharge	Q2-3	Q3	Q3
Site A1 (Wilton Stream)	Upstream of Woodville Pig Farms Ltd. stormwater discharge	Q3	Q3	Q3
Site B (Wilton Stream)	1.12km Downstream of Woodville Pig Farms Ltd. stormwater discharge	Q3	Q3	Q3
Site 1 (Ollatrim River)	130m (approx.) upstream of Wilton / Ollatrim confluence	Q4-5	Q4-5	Q4-5
Site 2 (Ollatrim River)	1.1km (approx.) downstream of Wilton / Ollatrim confluence	Q4-5	Q4-5	Q4-5

As can be seen from the results, the Wilton Stream has been mostly achieving a Q3 (poor) water quality status, while the Ollatrim River has been achieving a Q3-4 (moderate) water quality status. As the sampling sites on the Wilton Stream upstream of the development site's existing stormwater discharge point are returning similar results to the downstream sampling site, it is considered that the site's stormwater discharge is unlikely to be having an adverse impact upon water quality.

5.0 EUROPEAN SITES (NATURA 2000 SITES)

In assessing the zone of influence of this project upon European sites, the following factors must be considered:

- Potential impacts arising from the project;
- The location and nature of European sites;
- Pathways between the development and European sites.

There is no standard radius that can be used to select which European sites are to be analysed. This can only be determined by looking at the zone of influence of the project at hand. A rule of thumb often used is to include all European sites within a distance of 15km. One Special Protection Area (SPA) site and four Special Area of Conservation (SAC) sites occur within 15km of the proposed development.

While the rule of thumb is to include all European sites within a distance of 15km, an additional SPA site has been included as part of the assessment, as it falls just outside the distance band and is also hydrologically connected with the proposed development. The following table details the European sites chosen for assessment:

SITE NAME	DESIGNATION	SITE CODE	DISTANCE
Scohaboy (Sopwell) Bog	SAC	002206	9.6km N
Kilduff, Devilsbit Mountain	SAC	000934	11.5km S-E
Sharavogue Bog	SAC	000585	13.5km N-E
Slievefelim to Silvermines Mountains	SPA	004165	13.3km S-SW
Lough Derg, North-east Shore	SAC	002241	14.5km N-W
Lough Derg (Shannon)	SPA	004058	15.8km N-W

Maps detailing European sites within 2km and 15km of the proposed site are included as Appendix A below.

Given the distances of the above designated sites to the proposed development site, and given that the development site is located within the Ballysteen Formation, with likely short flow paths and groundwater mainly restricted to the subsurface zone (Kelly, 2003), it is not considered that the development site would have a groundwater connection with the designated sites.

For this assessment, the sites considered to be within the potential zone of influence of the proposed development were the Lough Derg, North-east Shore SAC (Site Code: 002241) and the Lough Derg (Shannon) SPA (Site Code: 004058), due to hydrological connectivity with the proposed development.

Scohaboy (Sopwell) Bog SAC (Site Code: 002206), while within the same river catchment as the development site, is located upstream of the proposed development, and therefore is not hydrologically connected with the development. However, while unlikely to be within the potential zone of influence, Scohaboy (Sopwell) Bog SAC has been included for assessment due to distance.

The proposed development is not located within the same river catchment as Sharavogue Bog SAC (Site Code: 000585), and thus is not hydrologically connected to this SAC. While small portions of the Kilduff, Devilsbit Mountains SAC (Site Code: 000934) and Slievefelim to Silvermines Mountains SPA (Site Code: 004165) are within the same river catchment as the development, these sites are located upstream of the development site. Therefore, in the absence of a source-pathway-receptor relationship, and given the distances from the development, these sites have been screened out.

5.1 SCOHABOY (SOPWELL) BOG SAC (SITE CODE: 002206)

Scohaboy (Sopwell) Bog SAC occurs within the larger raised bog system that is designated as Scohaboy Bog NHA (000937). It is situated 4 km north-west of Cloughjordan in Co. Tipperary. It lies within the townland of Sopwell. The site is a Special Area of Conservation (SAC) selected for the following habitat listed on Annex I of the E.U. Habitats Directive:

ANNEX I HABITATS	
CODE	**DESCRIPTION**
7120	Degraded Raised Bog

The conservation objectives for the SAC site are to maintain or restore the favourable conservation condition of the qualifying interest. An excerpt from the Natura 2000 Data Form for the Scohaboy (Sopwell) SAC is included below, while further details are available within the site's site synopsis (NPWS, 2016).

"Scohaboy (Sopwell) Bog SAC (002206) comprises 71.91 ha of raised bog (62.36 ha of high bog and over 9.55 ha cutover) which occupies the central section of the northern end of Scohaboy Bog NHA (000937). Scohaboy Bog is a Midland type raised bog developed in a basin. The site is bounded by peatland on all margins, apart from the north where a stream flows along the northern margin. Cutover bog occurs in the south-east of the site and an area of approximately 19 ha of clear-felled coniferous plantation is present on the high bog to the north of the site. Over 43 ha of the high bog was never afforested but a considerable proportion of that area was subjected to intensive, but shallow drainage. That drainage was not maintained and in some areas has naturally partly infilled by bog moss Sphagnum species regrowth over the years. The afforested area was planted in the 1980s and was all clearfelled by 2013. Much of the unafforested high bog has vegetation typical of Midland Raised Bog type. The two scarce hummock forming bog mosses, *Sphagnum fuscum* (*sensu lato*) and *S. austinii* occur with the latter being locally frequent in places. Some of the recovering pool systems are quite large with Bog Bean (*Menyanthes trifoliata*) and Great Sundew (*Drosera anglica*) present.

When the conifer plantation in the SAC were removed the intensive drainage system associated with it was blocked by 2014 as part of an EU funded LIFE project so as to raise the water table and restore Active raised bog (ARB) on the site… Much of the cutover to the south-east of the site is dominated by Purple Moor-grass (*Molinia caerulea*) with scattered scrub of Gorse (*Ulex europaeus*) and Downy Birch (*Betula pubescens*) in places. Peat cutting ceased in the area in 2015 and the cutover drains were all blocked in late 2015. The area has now rewetted and should eventually support raised bog communities and species. It is estimated that approximately 1.6 ha of this cutover has the potential to support Active Raised Bog in the medium to long term (i.e. over 30 years period).

Scohaboy (Sopwell) Bog SAC is a site of considerable conservation significance comprising raised bog, a rare habitat in the EU and one that is becoming increasingly scarce and under threat in Ireland. It contains good examples of the EU Habitats Directive Annex I habitat Degraded raised bog (capable of regeneration) which is being restored to the priority Annex 1 habitat Active raised bog. The site already supports a good diversity of raised bog microhabitats including some hummock/hollow complexes, tear pools and rewetted cutover bog and is one of the more southerly raised bogs in the south Midlands which adds significantly to its ecological importance… The site is being actively managed for conservation as part of the Coillte EU LIFE Project and most of the required restoration measures have already been carried out. Those measures that remain, or are ongoing, should be achievable with average effort. An After LIFE management plan is being developed by Coillte for the future conservation management of the SAC. The SAC is located within the raised bog Scohaboy Bog NHA (000937) the conservation management of which should support the redevelopment of Active Raised Bog in the SAC.

The presence of White-clawed Crayfish (*Austropotamobius pallipes*), a species listed in Annex II of the EU Habitats Directive, adds to the diversity and scientific value of the site. The population at this site is considered to have a favourable conservation status with the presence of adults and juveniles. The presence of this species increases the overall scientific interest of the site."

The main site vulnerabilities, including any key pressures or trends within and around Scohaboy (Sopwell) Bog SAC that have been identified as impacting upon the site, may be summarised as peat extraction and human induced changes in hydraulic conditions.

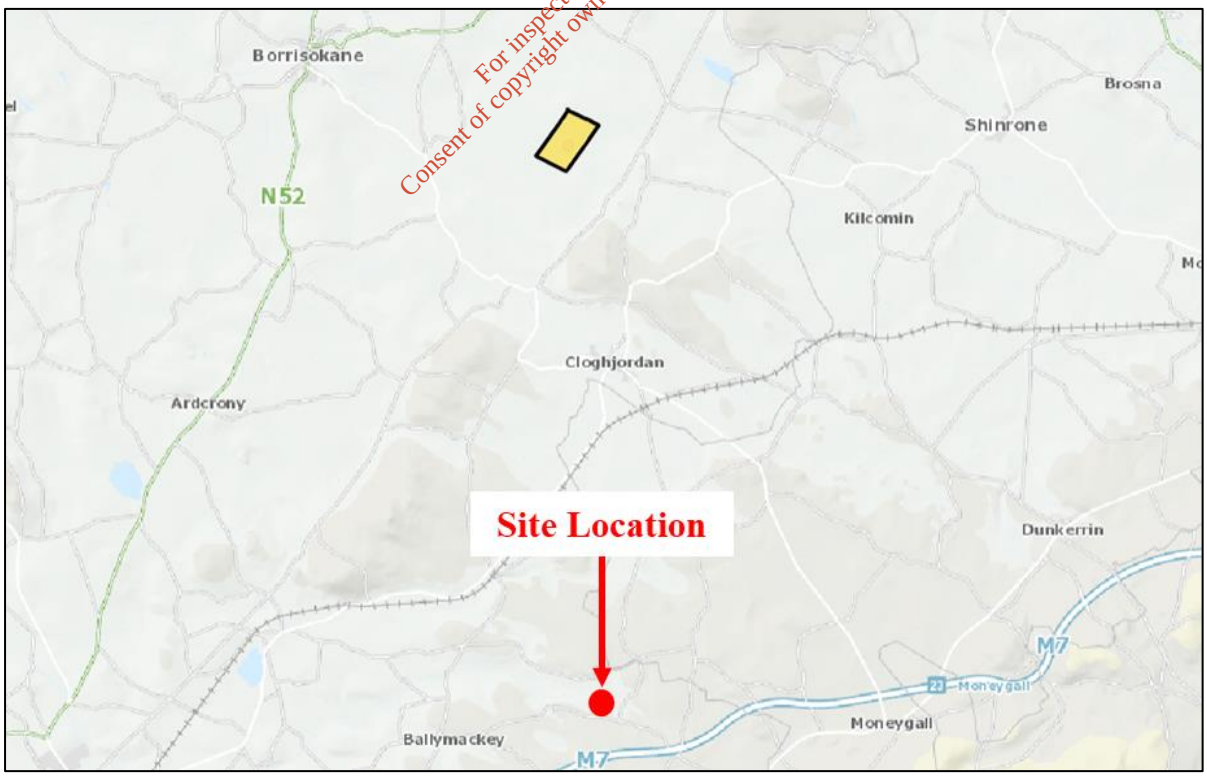

Figure 5.1: Scohaboy (Sopwell) Bog SAC

Scohaboy (Sopwell) Bog SAC Conservation Objectives

The Habitats Directive requires the Appropriate Assessment process to assess the potential impacts of the development "in *view of the site's conservation objectives*". While there are currently no site specific conservation objectives (SSCOs) for the qualifying interest of Schoaboy (Sopwell) SAC, the NPWS document "*Conservation Objectives: Scohaboy (Sopwell) SAC 002206*" (NPWS, 2018) notes that the conservation objectives for the SAC are to maintain or restore the favourable conservation condition of the qualifying interest.

Scohaboy (Sopwell) Bog SAC Conservation Status

According to the Habitat's Directive, favourable conservation status of a habitat is achieved when:

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

The conservation status for the qualifying interest of Schoaboy (Sopwell) SAC is outlined below.

CODE	QUALIFYING INTEREST	NATIONAL CONSERVATION STATUS*	SITE LEVEL CONSERVATION STATUS**
7120	Degraded Raised Bog	Bad	Good

**Sourced from the Status of EU Protected Habitats in Ireland (NPWS, 2019b)*
***Sourced from NPWS (2017)*

5.2 LOUGH DERG, NORTH-EAST SHORE SAC (SITE CODE: 002241)

Lough Derg, the lowest order lake on the River Shannon, is one of the largest bodies of freshwater in Ireland. This SAC, however, only includes the northern shore of the lake from the mouth of the Cappagh River in the north-west to just below Black Lough at the north-eastern shore. The greater part of this site lies on Carboniferous limestone, although there is Old Red Sandstone on the southern shores of the eastern section. The site is a Special Area of Conservation (SAC) selected for the following habitats listed on Annex I of the E.U. Habitats Directive:

ANNEX I HABITATS	
CODE	DESCRIPTION
5130	Juniper Scrub
7210	*Cladium* Fens*
7230	Alkaline Fens
8240	Limestone Pavement*
91E0	Alluvial Forests*
91J0	Yew Woodlands*

** denotes a priority habitat*

The conservation objectives for the SAC site are to maintain or restore the favourable conservation condition of the qualifying interests. An excerpt from the Natura 2000 Data Form for the Lough Derg, North-east Shore SAC is included below, while further details are available within the site's site synopsis (NPWS, 2014).

"This site incorporates part of the water body of Lough Derg and includes most of the northern lake shore and approximately one-third of the northeast shoreline. Lough Derg itself is the lowest order lake on the River Shannon and is one of the largest freshwater bodies in Ireland. Most of the lake overlies Carboniferous Limestone, which outcrops along the shores, but some old Red Sandstone occurs on the eastern side. The site is of high scenic value and is a well-known angling and tourism area.

This site supports a wide range of habitats, including Alkaline fens, Juniper scrub formations, limestone pavement, Yew woodlands, alluvial woodlands and *Cladium* fen. It also supports the only known population in the country for the Irish Red Data Book species Irish Fleabane (*Inula salicina*). Other scarce plant species found here include Whitebeam (*Sorbus aria*) and Buckthorn (*Rhamnus catharticus*). The endangered fish species Pollan (*Coregonus autumnalis*) has its European stronghold in Lough Derg. The open water areas of the lake itself are important for wintering wildfowl. Goat island holds a breeding colony of Common Tern (*Sterna hirundo*). A subflock of Greenland White-fronted Goose (*Anser albifrons flavirostris*) uses the callow lands around Slevoir Bay in Winter. A good population of Mute Swan (*Cygnus olor*) occurs."

The main site vulnerabilities, including any key pressures or trends within and around the Lough Derg, North-east Shore SAC that have been identified as impacting upon the site, may be summarised as:

- Fertilisation;
- Mining and quarrying;
- Transportation and service corridors;
- Outdoor sports and leisure activities, recreational activities;
- Pollution to surface waters;
- Invasive non-native species;
- Human induced changes in hydraulic conditions;
- Eutrophication.

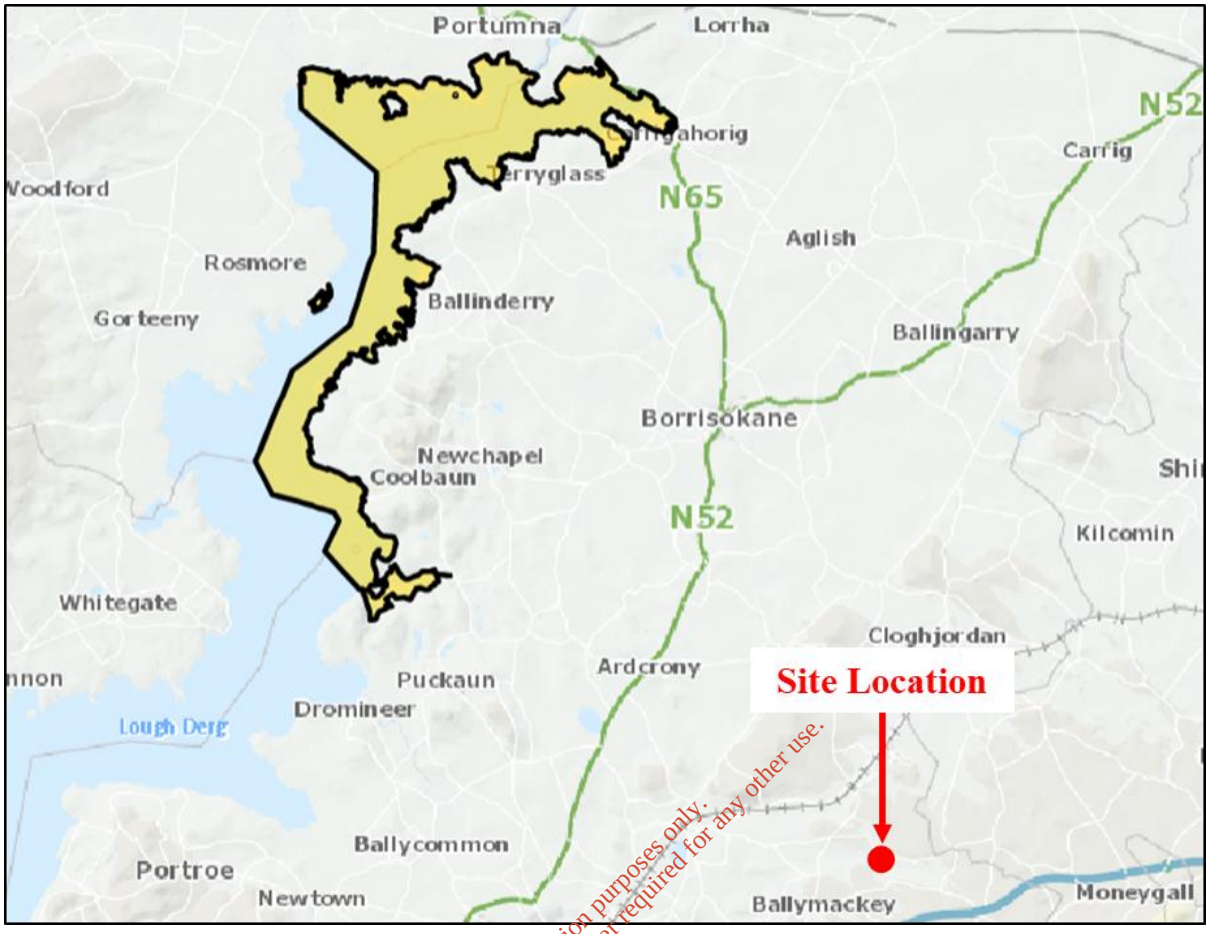

Figure 5.2: Lough Derg, North-east Shore SAC

Lough Derg, North-east Shore SAC Conservation Objectives

The Habitats Directive requires the Appropriate Assessment process to assess the potential impacts of the development "in *view of the site's conservation objectives*". Site specific conservation objectives (SSCOs) for the qualifying interests of the Lough Derg, North-east Shore SAC are provided in the table below, where available from the NPWS document "*Conservation Objectives: Lough Derg, North-east Shore SAC 002241*" (NPWS, 2019).

ATTRIBUTE	MEASURE	TARGET
[5130] Juniper Scrub		
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Habitat distribution	Occurrence	No decline, subject to natural processes
Juniper formation size	Number and proximity of juniper plants	At least 50 juniper plants present with each plant separated by no more than 20m
Vegetation structure: female fruiting plants	Percentage in a representative number of 5m x 5m monitoring stops or in an *ad hoc* count of 50 plants	Fruiting females comprise at least 10% of juniper plants rooted in plot in at least 50% of stops or in an *ad hoc* count of 50 plants
Vegetation structure: seedling recruitment	Presence in a representative number of 5m x 5m monitoring stops	At least one seedling recorded in at least one monitoring stop
Vegetation structure: live juniper	Percentage in a representative number of 5m x 5m monitoring stops or across the site as a whole	At least 90% of juniper plants rooted in plot alive in at least 75% of stops or across the site as a whole
Vegetation composition: negative indicator species	Percentage in a representative number of 5m x 5m monitoring stops	Total cover of negative indicator species to be less than 10% in at least 50% of stops
Physical structure: germination niches	Percentage in a representative number of 5m x 5m monitoring stops	At least 5% bare soil and/or at least 5% bare rock in at least 50% of stops
Formation structure: browning/die-back of plants	Percentage of juniper cover in a representative number of 5m x 5m monitoring stops	Browning or dead juniper branches (excluding fully dead plants) comprise no more than 20% of total juniper cover in plot in at least 75% of stops
Formation structure: evidence of browsing and bark stripping	Occurrence across a representative number of 5m x 5m monitoring stops	Recent browsing of juniper plants and bark stripping and trampling due to browsers evident in no more than 50% of stops
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat
[7210] Cladium Fens		
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Habitat distribution	Occurrence	No decline, subject to natural processes
Ecosystem function: peat formation	Percentage cover of peat-forming vegetation and water table levels	Maintain active peat formation, where appropriate
Ecosystem function: hydrology - groundwater levels	Water levels (centimetres); duration of levels; hydraulic gradients	Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat
Ecosystem function: hydrology -	Drain density and form	Maintain, or where necessary restore, as close as possible to natural or semi-natural, drainage

ATTRIBUTE	MEASURE	TARGET
surface water flow		conditions
Ecosystem function: water quality	Water chemistry measures	Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat
Vegetation composition: typical species	Percentage cover at a representative number of 2m x 2m monitoring stops	Maintain adequate cover of typical species, including brown mosses and vascular plants
Vegetation composition: native negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of native negative indicator species at insignificant levels
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%
Vegetation composition: trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground not more than 10%. Where tufa is present, disturbed bare ground not more than 1%
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes
[7230] Alkaline Fens		
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Habitat distribution	Occurrence	No decline, subject to natural processes
Ecosystem function: soil nutrients	Soil pH and appropriate nutrient levels at a representative number of monitoring stops	Maintain soil pH and nutrient status within natural ranges
Ecosystem function: peat formation	Percentage cover of peat-forming vegetation and water table levels	Maintain active peat formation, where appropriate
Ecosystem function: hydrology - groundwater levels	Water levels (centimetres); duration of levels; hydraulic gradients	Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat
Ecosystem function: hydrology - surface water flow	Drain density and form	Maintain, or where necessary restore, as close as possible to natural or semi-natural drainage conditions
Ecosystem function: water quality	Water chemistry measures	Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat
Community diversity	Abundance of variety of vegetation communities	Maintain variety of vegetation communities, subject to natural processes

ATTRIBUTE	MEASURE	TARGET
Vegetation composition: brown mosses	Percentage cover at a representative number of 2m x 2m monitoring stops	Maintain adequate cover of typical brown moss species
Vegetation composition: typical vascular plants	Percentage cover at a representative number of 2m x 2m monitoring stops	Maintain adequate cover of typical vascular plant species
Vegetation composition: native negative indicator species	Percentage cover at a representative number of 2m x 2m monitoring stops	Cover of native negative indicator species at insignificant levels
Vegetation composition: non-native species	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of non-native species less than 1%
Vegetation composition: native trees and shrubs	Percentage cover in local vicinity of a representative number of monitoring stops	Cover of scattered native trees and shrubs less than 10%
Vegetation composition: soft rush and common reed cover	Percentage cover in local vicinity of a representative number of monitoring stops	Total cover of soft rush (*Juncus effusus*) and common reed (*Phragmites australis*) less than 10%
Vegetation structure: litter	Percentage cover in local vicinity of a representative number of monitoring stops	Total cover of litter not more than 25%
Physical structure: disturbed bare ground	Percentage cover at, and in local vicinity of, a representative number of 2m x 2m monitoring stops	Cover of disturbed bare ground not more than 10%
Physical structure: tufa formations	Percentage cover in local vicinity of a representative number of monitoring stops	Disturbed proportion of vegetation cover where tufa is present is less than 1%
Indicators of local distinctiveness	Occurrence and population size	No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes
[8240] Limestone Pavement		
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Habitat distribution	Occurrence	No decline
Vegetation composition: positive indicator species	Number at a representative number of monitoring stops	At least seven positive indicator species present
Vegetation composition: bryophyte layer	Percentage at a representative number of monitoring stops	Bryophyte cover at least 50% on wooded pavement

ATTRIBUTE	MEASURE	TARGET
Vegetation composition: negative indicator species	Percentage at a representative number of monitoring stops	Collective cover of negative indicator species on exposed pavement not more than 1%
Vegetation composition: non-native species	Percentage at a representative number of monitoring stops	Cover of non-native species not more than 1% on exposed pavement; on wooded pavement not more than 10% with no regeneration
Vegetation composition: scrub	Percentage at a representative number of monitoring stops	Scrub cover no more than 25% of exposed pavement
Vegetation composition: bracken cover	Percentage at a representative number of monitoring stops	Bracken (*Pteridium aquilinum*) cover no more than 10% on exposed pavement
Vegetation structure: woodland canopy	Percentage at a representative number of monitoring stops	Canopy cover on wooded pavement at least 30%
Vegetation structure: dead wood	Occurrence in a representative number of monitoring stops	Sufficient quantity of dead wood on wooded pavement to provide habitat for saproxylic organisms
Physical structure: disturbance	Occurrence in a representative number of monitoring stops	No evidence of grazing pressure on wooded pavement
Indicators of local distinctiveness	Occurrence	Indicators of local distinctiveness are maintained
[91E0] Alluvial Forests		
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Habitat distribution	Occurrence	No decline
Woodland size	Hectares	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size
Woodland structure: cover and height	Percentage; metres; centimetres	Total canopy cover at least 30%; median canopy height at least 7m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20cm; bryophyte cover at least 4%
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types
Woodland structure: natural regeneration	Seedling:sapling:pole ratio	Seedlings, saplings and pole age-classes of target species for 91E0* woodlands and other native tree species occur in adequate proportions to ensure survival of woodland canopy
Hydrological regime: flooding depth/height of water table	Metres	Appropriate hydrological regime necessary for maintenance of alluvial vegetation
Woodland structure: dead wood	Number per hectare	At least 19 stems/ha of dead wood at least 20cm diameter
Woodland structure: veteran trees	Number per hectare	No decline
Woodland structure: indicators of local distinctiveness	Occurrence	No decline
Woodland structure: indicators of overgrazing	Occurrence	All five indicators of overgrazing absent

ATTRIBUTE	MEASURE	TARGET
Vegetation composition: native tree cover	Percentage	No decline. Native tree cover at least 90% of canopy; target species cover at least 50% of canopy
Vegetation composition: typical species	Occurrence	At least 1 target species for 91E0* woodlands present; at least 6 positive indicator species for 91E0* woodlands present
Vegetation composition: negative indicator species	Occurrence	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent
Vegetation composition: problematic native species	Percentage	Cover of common nettle (*Urtica dioica*) less than 75%
[91J0] Yew Woodlands		
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Habitat distribution	Occurrence	No decline
Woodland size	Hectares	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size
Woodland structure: cover and height	Percentage; metres; centimetres	Total canopy cover at least 30%; median canopy height at least 10m; native shrub layer cover 10-75%; native herb/dwarf shrub layer cover at least 20% and height at least 20cm; bryophyte cover at least 4%
Woodland structure: community diversity and extent	Hectares	Maintain diversity and extent of community types
Woodland structure: natural regeneration	Seedling:sapling:pole ratio	Seedlings, saplings and pole age-classes of yew (Taxus baccata) and other native tree species occur in adequate proportions to ensure survival of woodland canopy
Woodland structure: dead wood	Number per hectare	At least 19 stems/ha of dead wood at least 20cm diameter
Woodland structure: veteran trees	Number per hectare	No decline
Woodland structure: indicators of local distinctiveness	Occurrence	No decline
Woodland structure: indicators of overgrazing	Occurrence	All four indicators of overgrazing absent
Vegetation composition: native tree cover	Percentage	No decline. Native tree cover at least 90% of canopy; yew (*Taxus baccata*) cover at least 50% of canopy
Vegetation composition: typical species	Occurrence	Yew (*Taxus baccata*) present; at least 6 positive indicator species for 91J0* woodlands present
Vegetation composition: negative indicator species	Occurrence	Negative indicator species cover not greater than 10%; regeneration of negative indicator species absent

Lough Derg, North-east Shore SAC Conservation Status

According to the Habitat's Directive, favourable conservation status of a habitat is achieved when:

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

The conservation statuses for the qualifying interests of the Lough Derg, North-east Shore SAC are outlined below.

CODE	QUALIFYING INTEREST	NATIONAL CONSERVATION STATUS*	SITE LEVEL CONSERVATION STATUS**
5130	Juniper Scrub	Favourable	Excellent
7210	*Cladium* Fens	Inadequate	Good
7230	Alkaline Fens	Bad	Good
8240	Limestone Pavement	Inadequate	Reduced
91E0	Alluvial Forests	Bad	Reduced
91J0	Yew Woodlands	Bad	Good

**Sourced from the Status of EU Protected Habitats in Ireland (NPWS, 2019b)*
***Sourced from NPWS (2017)*

5.3 LOUGH DERG (SHANNON) SPA (SITE CODE: 004058)

The site is a SPA under the E.U. Birds Directive, of special conservation interest for the species listed in the table below. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

SPECIAL CONSERVATION INTERESTS		
CODE	COMMON NAME	SCIENTIFIC NAME
A017	Cormorant	*Phalacrocorax carbo*
A061	Tufted Duck	*Aythya fuligula*
A067	Goldeneye	*Bucephala clangula*
A193	Common Tern	*Sterna hirundo*
A999	Wetlands	-

An excerpt from the site's Natura 2000 Data Form is included below.

"Lough Derg is the largest of the Shannon Lakes, being some 40km long. Its maximum breadth across the Scarriff Bay-Youghal Bay transect is 13km but for most of its length it is less than 5 km wide. The lake is relatively shallow at the northern end being mostly 6m in depth but in the middle region it has an axial trench and descends to over 25m in places. The narrow southern end of the lake has the greatest average depth, with a maximum of 34m. The

greater part of the lake lies on Carboniferous limestone but the narrow southern section is underlain by Silurian strata. Most of the lower part of the lake is enclosed by hills on both sides, the Slieve Aughty Mountains to the west and the Arra Mountains to the east. The northern end is bordered by relatively flat, agricultural country. The lake shows the high hardness levels and alkaline pH to be expected from its mainly limestone catchment basin and it has most recently been classified as a mesotrophic system. The lake has many small islands, especially on its western and northern sides. The shoreline is often fringed with swamp vegetation. Aquatic vegetation includes a range of charophyte species.

Lough Derg is of importance for both breeding and wintering birds. The islands support nationally important breeding colonies of Common Tern (*Sterna Hirundo*), Cormorant (*Phalacrocorax carbo*), Great Crested Grebe (*Podiceps cristatus*) and probably Tufted Duck (*Aythya fuligula*). It is a traditional site for nesting Black-headed Gull (*Larus ridibundus*) but there is no recent survey information. In winter, the lake is particularly important for diving ducks, with nationally important populations of Tufted Duck and Goldeneye (*Bucephala clangula*) occurring. Mute Swan (*Cygnus olor*) also has a population of national importance, whilst a range of other species occur in lesser numbers, including Whooper Swan (*Cygnus cygnus*), Teal (*Anas crecca*), Coot (*Fulica atra*) and Lapwing (*Vanellus vanellus*). A flock of White-fronted Goose (*Anser albifrons flavirostris*) has traditionally used the site, where they feed on grassy islands, but birds have seldom been recorded in recent years."

The main site vulnerabilities, including any key pressures or trends within and around the Lough Derg (Shannon) SPA that have been identified as impacting upon the site, may be summarised as fertilisation, leisure fishing, hunting and nautical sports.

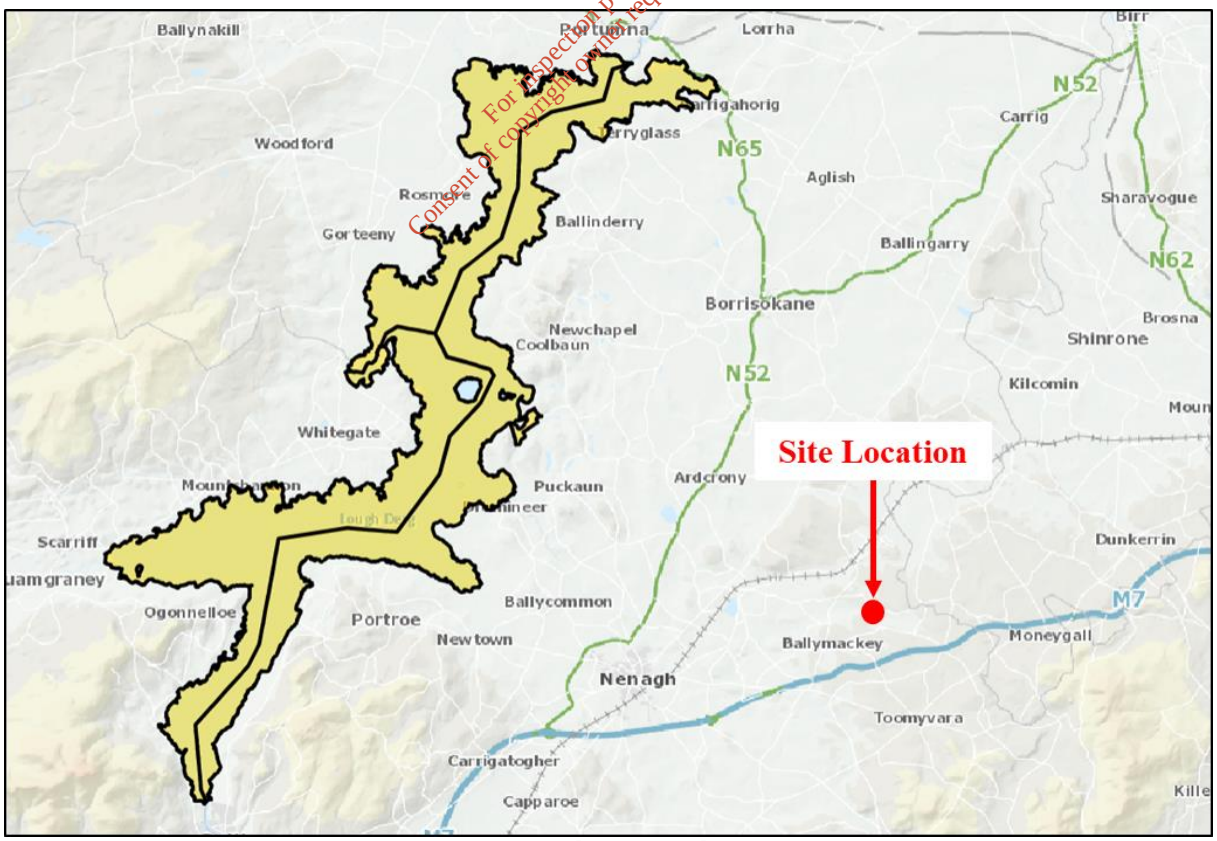

Figure 5.3: Lough Derg (Shannon) SPA

Lough Derg (Shannon) SPA Conservation Objectives

The Habitats Directive requires the Appropriate Assessment process to assess the potential impacts of the development "in *view of the site's conservation objectives*". While there are currently no site specific conservation objectives (SSCOs) for the special conservation interests of the Lough Derg (Shannon) SPA, the NPWS document "*Conservation Objectives: Lough Derg (Shannon) SPA 004058*" (NPWS, 2018) notes that the conservation objectives for the SPA site are to maintain or restore the favourable conservation condition of the bird species and habitat listed as Special Conservation Interests for this SPA.

To acknowledge the importance of wetlands to wintering waterbirds, a second objective has been included for the SPA site, which is to maintain or restore the favourable conservation condition of the wetland habitat at Lough Derg (Shannon) SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Lough Derg (Shannon) SPA Conservation Status

According to the Habitat's Directive, 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.

The conservation statuses for the special conservation interests of the Lough Derg (Shannon) SPA are outlined below.

CODE	SPECIAL CONSERVATION INTEREST	NATIONAL CONSERVATION STATUS*	SITE LEVEL CONSERVATION STATUS**
A017	Cormorant	Amber	Resident: Excellent Wintering: Good
A061	Tufted Duck	Red	Resident: Good Wintering: Excellent
A067	Goldeneye	Red	Excellent
A193	Common Tern	Amber	Good
A999	Wetlands	-	-

**Sourced from Birds of Conservation Concern in Ireland 2014-2019 (Colhoun and Cummins, 2013)*
***Sourced from NPWS (2017)*

6.0 ASSESSMENT OF LIKELY IMPACTS

6.1 DISTURBANCE TO PROTECTED HABITATS AND SPECIES

The proposed development does not directly impinge on any part of a European site, and as such would not be expected to have any in-situ effects upon a protected site through loss or destruction of habitat, fragmentation of habitat, disturbance of habitat or direct reduction in species density or diversity.

The closest protected site to the development is Scohaboy (Sopwell) Bog SAC, located approximately 9.6km to the north. Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA are hydrologically connected to the development, and are located approximately 14.5km and 15.8km respectively from the development site. Given the presence of designated sites within the vicinity of the development, potential ex-situ impacts must also be considered.

It is not considered that the proposed development site would contain the habitats or species for which the Scohaboy (Sopwell) Bog SAC, Lough Derg, North-East Shore SAC or Lough Derg (Shannon) SPA are designated for.

No areas of peatland or fens exist on the development site, therefore the site does not contain any habitat which would have potential links to degraded raised bog [7120], cladium fens [7210] and alkaline fens [7230]. While broadleaved woodland was identified at the site, this is considered to be modified, containing many non-native species, and therefore it is not considered that this woodland has any potential links to alluvial forests [91E0] or yew woodlands [91J0]. Scrub habitat is present onsite, however this is primarily comprised of willow and ash. Therefore, this scrub habitat does not have potential links with juniper scrub [5130]. No areas of limestone are present on the site, therefore the site does not contain any habitat with potential links to limestone pavement [8240].

With regards wildfowl species, none of the special conservation interests of the Lough Derg (Shannon) SPA were recorded during the site walkover. There are no NBDC records for the special conservation interests for the two 2km squares (R98Q and R98R) in which the development is located. While it is noted that the Wilton Stream and Ollatrim River are located approximately 125m and 350m from the development site respectively, no aquatic habitats of note are present within the development site itself. Therefore, it is unlikely that the development site would be of importance to the special conservation interests, given the distances from the SPA site and given that no areas of fens, marshes, swamps, lakes or other open bodies of water are present on the proposed development site.

It is not envisaged that protected species would be adversely impacted upon by the proposed development due to noise generated by the proposed development or by noise generated from the associated site traffic, given the nature of the proposed development and the distances to the designated sites (approximately 9.6km). While there would be increased noise emissions during the construction phase, these would not be considered to pose a significant risk owing to the transient nature of works, the construction timeframe (3-4 months) and the distances between the development site and designated sites.

The potential disturbance on protected habitats due to dust during the construction phase would not be considered significant, given the transient nature of construction works, the

construction timeframe (3-4 months) and given the distance to the nearest European site (approximately 9.6km).

It is not considered that the operational phase of the proposed development would have the potential to significantly impact upon air quality within the area, with the potential to adversely impact upon Scohaboy (Sopwell) Bog SAC, Lough Derg, North-east Shore SAC or Lough Derg (Shannon) SPA.

Ammonia is abundant in slurry, is highly volatile and is emitted when the slurry is in contact with air during storage. Emissions of ammonia to atmosphere is undesirable from an ecological point of view, as it can have toxic, eutrophic and acidifying effects on certain ecosystems. In particular, the presence of high ammonia levels in peatland ecosystems has been found to inhibit the growth of certain moss species, allowing sedge and grass species to outcompete.

While ammonia emissions would increase in response to an increase in pig numbers at the proposed development site, the proposed development includes design measures which limit the potential for the generation of ammonia emissions to atmosphere. Of particular note is the incorporation of a slurry cooling system, which has been estimated to reduce ammonia emissions by 25% (as discussed in Section 5 of the EIAR prepared for the application, Document Ref. EIAR_19_9350). The development would also include for the removal of slurry to an external slurry store, which has been noted as a key principle within the document, "*Reference Document on Best Available Techniques (BAT) for Intensive Rearing of Poultry and Pigs*", for reducing air emissions.

Given the incorporated design measures for the reduction of air emissions at source, and given the considerable distances of designated sites from the proposed development (with the nearest designated site, Scohaboy (Sopwell) Bog SAC located approximately 9.6km from the development), no potential significant impacts are anticipated upon designated sites due to the proposed development in relation to air emissions.

It is therefore considered that the proposed development would not result in any significant risk to the protected habitats and species of Scohaboy (Sopwell) Bog SAC, Lough Derg, North-east Shore SAC or Lough Derg (Shannon) SPA due to habitat fragmentation or loss, disturbance or reduction in species density or diversity.

6.2 INVASIVE SPECIES

Under Regulation 49(2) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), save in accordance with a licence granted under paragraph (7), any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in any place specified in relation to any plant which is included in Part 1 of the Third Schedule shall be guilty of an offence.

Materials containing invasive species such as Japanese Knotweed are considered "controlled waste", and, as such, there are legal restrictions on their handling and disposal. Under Regulation 49(7) of the European Communities (Birds and Natural Habitats) Regulations 2011, it is a legal requirement to obtain a license to move "vector materials" listed in the Third Schedule, Part 3.

Three invasive flora species listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 have been recorded by the NBDC within the 10km square (R98) in which the development site is located; Giant-rhubarb, Japanese Knotweed and *Rhododendron ponticum*. However, no invasive species of concern were noted as present during the site walkover.

The risk of invasive species being introduced onto the site during the construction phase of the project is considered to be low, with no import of materials with the potential to contain invasive flora species. Soils excavated during construction works would be stockpiled and re-used for site levelling and site landscaping, therefore no importation of topsoil or subsoil would be required as part of the development works.

Therefore, it is considered that there would be no significant risk to protected habitats and species as a result of invasive species from the site.

6.3 POTENTIAL IMPACTS ON WATER QUALITY

The proposed development is located within the Lower Shannon catchment (25C). As noted in Section 4.2.1, stormwater drainage from the development site is hydrologically connected to the Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA via the Ollatrim and Nenagh Rivers. It should be noted that the development site is not hydrologically connected to the Scohaboy (Sopwell) Bog SAC, therefore no potential impacts on water quality due to the proposed development site are anticipated.

As discussed in Section 4.2.1, the development site is located a considerable distance, approximately 22.4km from the Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA. Given the considerable distance and subsequent tributaries involved, any drainage from the site, during either the construction or operational phase, would undergo considerable dilution prior to reaching the SAC or SPA sites.

The proposed development would not be considered to impact upon the listed habitats and species of the SAC or SPA sites due to deleterious effects on water quality, owing to the location of the development site, the nature of the development, the duration of construction works, the proposed drainage system, the considerable hydrological distance (and thus dilution) between the proposed development and the designated sites, and given that the proposed development is not located within the immediate vicinity of any watercourses.

During the construction phase of projects, a deterioration in water quality can arise through the release of suspended solids during soil disturbance works, the release of uncured concrete and the release of hydrocarbons (fuels and oils). A deterioration in water quality has the potential to have an adverse impact upon the qualifying interests of the Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA, particularly qualifying interests which have conservation objectives relating to water quality.

Construction works would be approximately three to four months in duration only. Construction works would be confined to the proposed development footprint, which, at its closest, would be located approximately 300m from the nearest watercourse (Wilton Stream), with no works taking place within or immediately adjacent to riparian or aquatic habitat.

With regards the existing stormwater drainage network, there are no open stormwater drains or gullies into which potential run-off from construction activities could enter. Therefore, the risk of the proposed development impacting upon water quality would be greatly reduced.

With regards suspended solids, it is considered that there would be no significant risk upon the water quality of the Ollatrim or Nenagh Rivers, and thus the Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA, given that excavated soils would be used in site levelling and landscaping activities and therefore would be exposed for a limited period of time only, and given that excavation works would not be located within the immediate vicinity of any watercourses (as discussed above, at least 300m from the nearest watercourse). In the unlikely event suspended solids are entrained in stormwater run-off, the solids would likely be retained onsite as run-off percolates to ground (given the absence of watercourses or drains within the immediate vicinity of the development site).

There would be no significant risk of water quality deterioration as a result of uncured concrete, given that works would not be located within the vicinity of any watercourses (with the nearest watercourse approximately 300m from the development footprint) and given that surplus concrete would be returned to the batching plant.

Given the nature of construction activities required, the short duration of construction works (3-4 months) and given the distance to the nearest watercourse (approximately 300m), there is considered to be no significant risk of water quality deterioration as a result of hydrocarbon spillage.

It is not anticipated that the operational phase of the development has the potential to impact upon the listed habitats and species of the Lough Derg, North-east Shore SAC or Lough Derg (Shannon) SPA sites due to deleterious effects on water quality.

No significant impact on water quality would take place due to drainage from the site. As discussed in Section 4.1, stormwater from the site comprises of clean rainwater run-off from the roofs. Stormwater from the proposed structures would connect to this existing stormwater network prior to discharge to the Wilton Stream, located a significant hydrological distance from the SAC or SPA sites (greater than 22km).

There are no process effluent emissions from the site, with all animal manure stored within underground slurry tanks, awaiting collection for landspreading activities. All slurry tanks have been designed to ensure the site has sufficient storage capacity for any manure generated onsite. The existing slurry tanks are fitted with leak detection systems, which would also be incorporated within the proposed new slurry tanks, as discussed in Section 4.1.

The development could result in a potential impact upon the biodiversity of designated sites through the landspreading of pig manure as organic fertiliser, either through pollution of waterbodies or the enrichment of natural vegetation. However, manure is, and would continue to be, collected by registered contractors / farmers, for application to lands held by third parties in the area. The transport and spreading of the manure is managed in compliance with the Nitrates Regulations (S.I. No. 605 of 2017). The regulations provide for controls designed to protect groundwater and surface water from impacts due to the application of fertiliser on agricultural lands. Acceptable spreading times are limited, prohibitions on weather and ground conditions are defined and set back distances from waterbodies and wells/springs and limitations for areas of extreme groundwater vulnerability are established.

The spreading of manure would be undertaken in accordance with the setback distances from surface waterbodies and abstraction points specified in the Nitrates Regulations. This would minimise the risk of any pollution occurring and protected sites being impacted due to the spreading of organic fertilisers. As manure from the development is a replacement for other chemical and organic fertilisers on the current, proposed and any future potential spreadlands, it is considered that the impact of manure being used as a fertiliser would have a neutral to no significant additional impact upon the biodiversity of landspreading areas.

No adverse potential impacts upon water quality would be anticipated due to accidents and potential spills and leaks, given the absence of watercourses within the vicinity of the site, the low volume of stored chemicals onsite and given that chemicals and oils are stored upon bunds, in accordance with the site's Industrial Emissions (IE) Licence.

As discussed in Section 4.2, the flood risk to the development is considered to be negligible, given that the site is not located within, or within the immediate vicinity, of an area of pluvial, fluvial or groundwater flood zone. In the unlikely event of a flood onsite, it is highly unlikely that floodwaters would come in contact with any significant potentially hazardous or polluting substances which could adversely affect water quality given the nature of the development. Therefore, the development would not be anticipated to pose a significant risk upon the SAC or SPA site as a result of floodwaters.

It is therefore considered that, due to the nature and location of the development, the absence of nearby watercourses, the construction timeframe, the proposed drainage, and the considerable hydrological distance to Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA, the proposed development would not pose a significant risk upon the these designated sites due to a deleterious effect on water quality during either the construction or operational phases.

6.4 IN COMBINATION EFFECTS

The following plans and projects were reviewed and considered for in-combination effects with the proposed development:

- North Tipperary County Development Plan 2010 - 2016 (As Varied);
- Ballymackey/Ballinree Settlement Plan;
- Proposed and permitted developments in the area available on Tipperary County Council planning system.

The proposed development is located in a rural area, with some nearby residential properties located along the local road network. The landuse of the area is mainly agricultural pasture, with some areas of arable land. The nearest village is Ballymackey, located approximately 2.7km to the south-west, while the nearest towns are Cloughjordan and Nenagh, located approximately 5.7km north and 9.6km south-west of the development site respectively. There are few commercial enterprises within the general area, with the exception of agricultural enterprises.

According to the Tipperary online planning system, planning permission was granted to Tipperary Milling Company Ltd. for a primary and secondary digester in 2007 (Planning Ref.

07510108). This application site is located approximately 640m to the east of the development site. However, this development did not take place. An application by Bulrush Horticulture Ltd. is currently in the planning process for retention planning (Planning Ref. 19600859) at Glenahilty Bog. This facility, involved in peat harvesting, is located approximately 1.3km to the north of the development site.

There is one EPA waste licenced facility located within 15km of the development; Advanced Environmental Solutions (Ireland) Limited (Nenagh), Waste Licence Ref. No. W0240-01, located approximately 12km to the south-west of the site. There are also a number of EPA IE / IPC licenced facilities located within 15km of the development site, as shown in the table below.

Table 6.1: EPA Licenced Facilities within 15km of the Development

LICENCE NO.	LICENCE NAME	LICENCE TYPE (FIRST SCHEDULE OF EPA ACT, 1992, AS AMENDED)	APPROX. DISTANCE FROM DEVELOPMENT SITE
W0078-03	Ballaghveny Landfill	11.5 Waste	180m East
P0411-01	Mr. James and Ms. Nuala Gleeson	6.2 (a) Intensive Agriculture	2.3km South-West
P0375-01	Toomevara Farms Limited	6.2 (a) Intensive Agriculture	6.3km South-East
P0184-01	Anglo Beef Processors Ireland Unlimited Company	7.4.1 Food and Drink	9.5km West
P0791-02	Arrabawn Co-operative Society Limited	7.2.1. Food and Drink	10.1km South-West
P0067-01	Procter & Gamble (Manufacturing) Ireland Limited.	5.3 Chemicals	11.1km South-West

Potential in-combination effects are discussed under the following headings.

6.4.1 Habitat Loss / Fragmentation

As discussed in Section 6.1, the proposed development does not directly impinge on any part of a European site, and as such would not be expected to have any in-situ effects upon a protected site through loss or destruction of habitat or fragmentation of habitat. With regards ex-situ effects, it is not considered that the proposed development site would contain the habitats or species for which the Scohaboy (Sopwell) Bog SAC, Lough Derg, North-east Shore SAC or Lough Derg (Shannon) SPA have been designated.

The surrounding land-use of the proposed development site is mainly agricultural pasture land, with some areas of arable land, which can be considered modified and of low biodiversity value. Areas of peatland are also noted within the vicinity, with some areas worked, therefore the biodiversity value would vary depending upon whether the peatland is being cut (low to moderate biodiversity value) or is untouched (high biodiversity value).

While no proposed developments were identified on the Tipperary County Council planning site within the immediate vicinity of the applicant's proposed site, should future planning applications be submitted for the area, it is likely that they would also be located on agricultural land. Therefore, it is unlikely that future proposed developments would result in

the loss or fragmentation of habitats with potential links to the designated habitats of the Scohaboy (Sopwell) Bog SAC or Lough Derg, North-east Shore SAC, or habitats which support the special conservation interests of Lough Derg (Shannon) SPA sites.

It is noted that Bulrush Horticulture Ltd. operate a peat harvesting facility at Glenahilty Bog, approximately 1.3km to the north of the site. While it is possible that Glenahilty Bog may have areas which are similar to Scohaboy (Sopwell) Bog SAC's qualifying interest degraded raised bog [7120], as the applicant's proposed development would not result in any impact upon peatland (in the absence of this habitat on site, or immediately adjacent the site), no in combination effects on habitat loss / fragmentation are anticipated.

6.4.2 Disturbance to Species

Disturbance to species may arise through noise emissions and human activity. The main in-combination noise and human activity effects would be from any commercial activities within the area. However, as noted above, there are few commercial enterprises located within the vicinity of the development site, with the general area around the development site mainly used for agricultural purposes and for some dispersed one-off housing. Therefore, owing to the distances of commercial activities and the EPA licenced facilities detailed in the table above, given the nature of activities at the proposed development (internal rearing of pigs), and given the distance of the development site to designated sites, it is considered that there would be no cumulative noise impacts, or other disturbance effects due to human activity, which would pose a significant risk to designated sites or species.

6.4.3 Air Quality

The main cumulative impacts of the proposed development with regards air emissions would be the potential generation of ammonia emissions to air from agricultural activities. In particular, ammonia emissions would be associated with intensive agricultural facilities. In addition to the Woodville farm site, there are two EPA licenced intensive agricultural facilities (P0411-01 and P0375-01) located within 15km of the development site. Given the distances of the proposed development and the two intensive agricultural facilities from the nearest designated sites, in addition to the design measures incorporated into the proposed development for the reduction of air emissions, no potential significant cumulative impacts are anticipated upon designated sites due to air emissions.

6.4.4 Deterioration in Water Quality

Continued implementation of the Water Framework Directive would result in achieving, or maintaining, improvements to water quality in the Lower Shannon Catchment. Developments such as this proposed development could act in combination with existing environmental pressures on the Lower Shannon Catchment, including: agriculture, anthropogenic, domestic and urban waste water, urban run-off, industry (including extractive) and forestry. In particular, the proposed development could act in combination with other similar projects which are hydrologically connected with the Wilton Stream, Ollatrim River or Nenagh River.

As discussed in Section 6.3, the proposed development would not be considered to impact upon the listed habitats and species of Lough Derg, North-east Shore SAC or Lough Derg (Shannon) SPA sites due to deleterious effects on water quality owing to the location of the

development site, the nature of the development, the duration of construction works, the proposed drainage system, the considerable hydrological distance (and thus dilution) between the proposed development and the designated sites, and given that the proposed development is not located within the immediate vicinity of any watercourses.

As discussed in Section 6.3, the development site is not hydrologically connected with Scohaboy (Sopwell) Bog SAC, therefore no potential impacts on water quality due to the proposed development site are anticipated.

The proposed development could act in combination with other developments with regards to the landspreading of manure / sludges. As discussed in Section 6.3, pig manure from the development site is currently landspread, and would likely continue to be landspread, on third party lands in the area. The landspreading of manure is undertaken in accordance with the Nitrates Regulations, such as complying with the timing of the landspreading, nutrient management planning and set-back distances around sensitive receptors and transport vectors. At least four of the facilities (Mr. James and Ms. Nuala Gleeson, Toomevara Farms Limited, Anglo Beef Processors Ireland Unlimited Company and Arrabawn Co-operative Society Limited) in Table 9.1 above generate sludges from wastewater treatment or pig manure, with the sludges / manure landspread by farmers or contractors. However, the landspread of these sludges / manure would be required to be undertaken in compliance with the Nitrates Regulations. Therefore, no cumulative impacts upon water quality due to landspreading would be anticipated.

It is therefore considered that there would be no significant cumulative impacts upon water quality which could pose a risk to Lough Derg, North-east Shore SAC or Lough Derg (Shannon) SPA.

7.0 SCREENING STATEMENT AND CONCLUSIONS

It is the conclusion of this screening study that there would be no potential for significant effects on European Sites (Natura 2000 network) as a result of the proposed development, by itself or in combination with other developments, and an Appropriate Assessment is not warranted. Screening establishes that there is no potential for significant effects, and the project is recommended to proceed as proposed.

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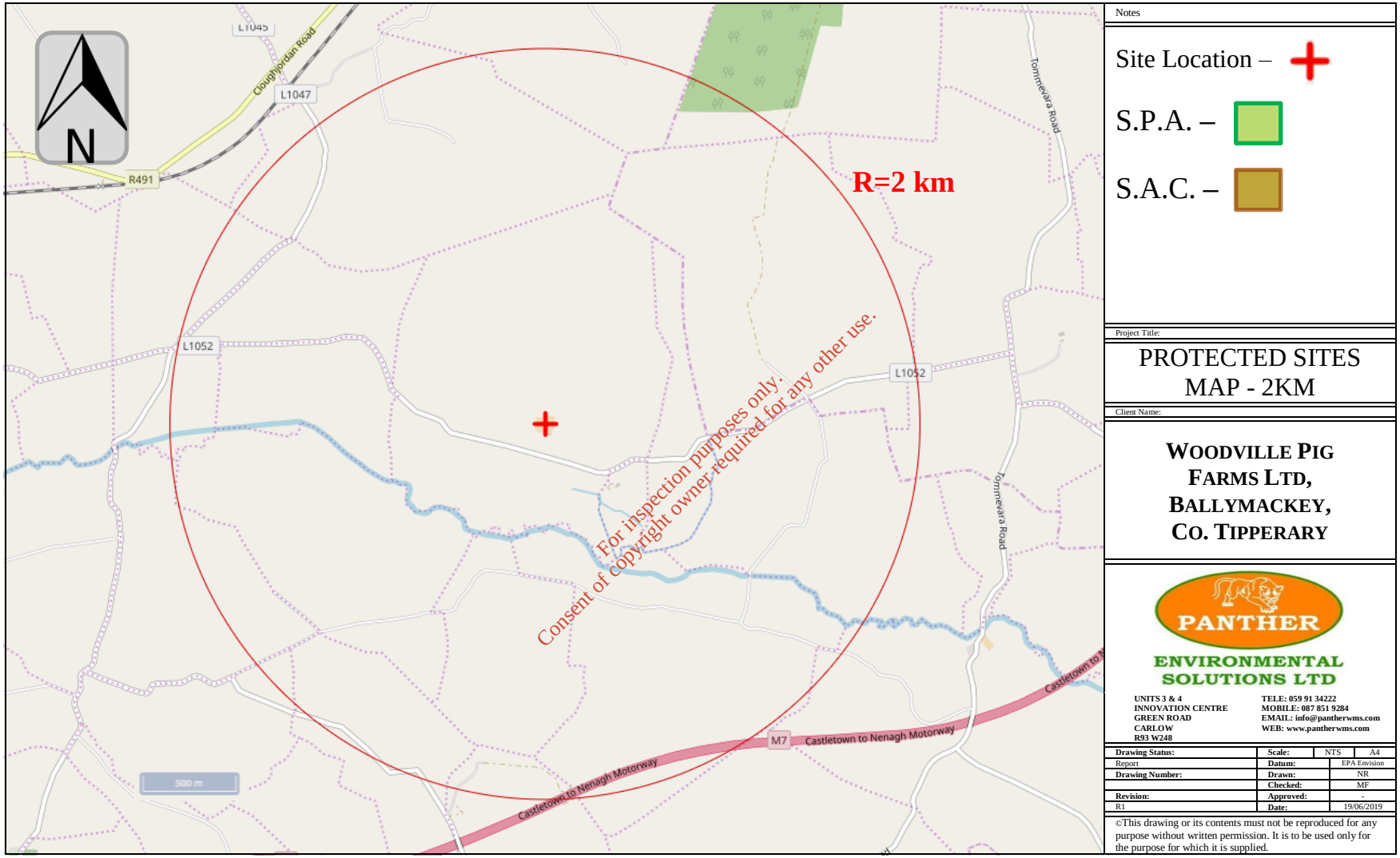
APPENDIX A

- PROTECTED SITES -

AND

- PROPOSED DEVELOPMENT LOCATION-



Notes

Site Location –

S.P.A. –

S.A.C. –

Project Title:

PROTECTED SITES
MAP - 2KM

Client Name:

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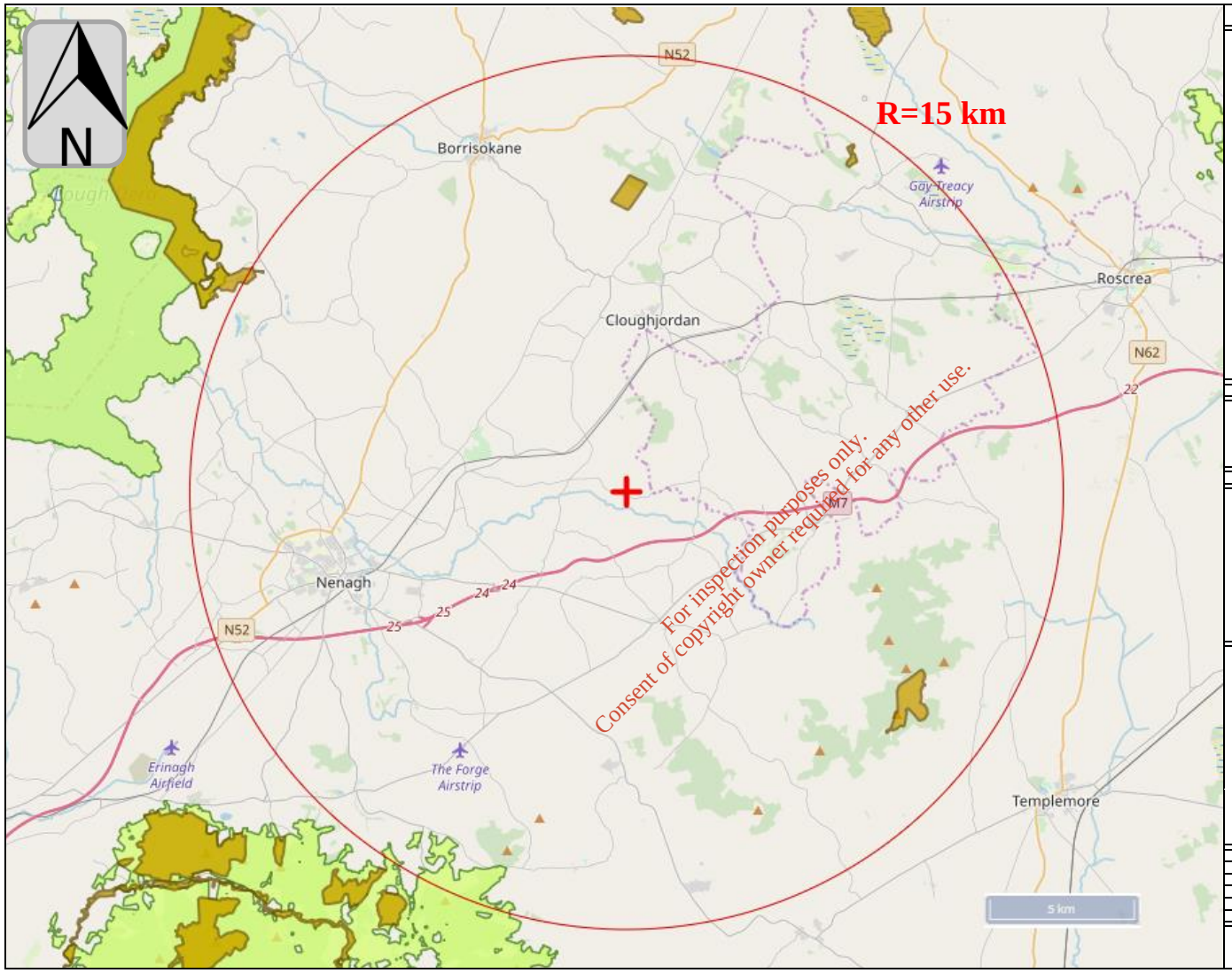
Drawing Status:	**Scale:**	NTS	A4
Report	**Datum:**	EPA Envision	
Drawing Number:	**Drawn:**	NR	
	Checked:	MF	
Revision:	**Approved:**	-	
R1	**Date:**	19/06/2019	



Notes

Site Location –

S.P.A. –

S.A.C. –

Project Title:

PROTECTED SITES
MAP - 15KM

Client Name:

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Report	**Datum:**	EPA Envision	
Drawing Number:	**Drawn:**	NR	
	Checked:	MF	
Revision:	**Approved:**	-	
R1	**Date:**	19/06/2019	

APPENDIX B

- PHOTO LOG -

Plate 1: Example of BL3 habitat onsite - the sow house.

Plate 2: Section of WL1 habitat, with adjacent ED3 habitat.

Plate 3: Area of GA2 habitat, within the southern portion of the site.

Plate 4: GS4 habitat in the site's northern section.

Notes:

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APPENDIX B
PHOTO LOG

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file location:		scale: N/A	A4
drawing status:	REPORT	datum:	N/A
		drawn:	PES
drawing no.	rev	checked:	MF
PL_19_9350	A	approved:	-
		date:	03/10/2019

Plate 5: Area of WS1 habitat, mainly comprised of Willow.

Plate 6: Section of hedgerows (WL1) within southern portion of site.

Plate 7: Section of treelines (WL2) along eastern site boundary.

Plate 8: Section of broadleaved woodland (WD1) along the western site boundary.

Notes:

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**APPENDIX B
PHOTO LOG**

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file location:		scale: N/A	A4
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