PROPOSED TIRAWLEY WIND FARM,

CO. MAYO

SCREENING FOR APPROPRIATE ASSESSMENT

AND

NATURA IMPACT STATEMENT

APRIL 2026

Prepared for

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by

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1 INTRODUCTION

This Appropriate Assessment Screening Report and Natura Impact Statement has been prepared by Dr. Brian Madden of BioSphere Environmental Services on behalf of Constant Energy Limited. The purpose of the report is to provide the information required to assist the competent authority to undertake a Screening Assessment and, if considered necessary, an Appropriate Assessment (AA). The AA screening process will determine whether the proposed Tirawley Project in County Mayo (the **"Project"),** either individually or in combination with other plans and projects, is likely to have a significant effect on European sites in view of best and objective scientific knowledge and of those sites' conservation objectives. The AA process will determine whether the Project will adversely affect the integrity of a European site in view of its conservation objectives,

Based on best available objective scientific knowledge, the potential effects on European sites, both as a result of the proposed Project and in-combination with other plans and projects, are appraised in this report.

The requirements for an Appropriate Assessment are set out under Article 6 of the EU Habitats Directive (92/34/EEC), transposed into Irish law through the European Union (Birds and Natural Habitats) Regulations 2011 as amended and the Planning and Development Act, 2000 (as amended).

The assessment in this report is based on a thorough desk study and various field surveys undertaken in period 2020 to 2024.

1.1 Regulatory Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna, better known as "The Habitats Directive", provides the framework for legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC) (better known as "The Birds Directive").

Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment (see below).

> "*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication 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"

This provision has been implemented in the context of the planning code under article 177V of the Planning and Development Act, 2000, as amended.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First the project should aim to avoid any negative impacts on the integrity of any European sites by identifying possible impacts early in the planning stage, and designing the project in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point, where no adverse impacts on the integrity of any European sites remain. If the project is still likely to adversely affect the integrity of a European site, and no further practicable mitigation is possible, then project may only proceed if no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6 (4) of the Habitats Directive, in which case compensation measures are required to offset any remaining adverse effect.

1.2 Stages of the Appropriate Assessment Process

This Appropriate Assessment Report / Natura Impact Statement has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland.* Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, 2010 revision;
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC.* Guidance issued by European Commission (21st November 2018).
- *Assessment of Plans and Projects in relation to Natura 2000 sites – (Revised) Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.* Guidance issued by European Commission (28.9.2021 C(2021) 6913 final).
- *ANNEX to the Commission notice to the Assessment of Plans and Projects in relation to Natura 2000 sites – (Revised) Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC: Examples of Practices, Case Studies, Methods and National Guidance.* Issued by European Commission (28.9.2021 C(2021) 6913 final).
- OPR Practice Note PN01 Appropriate Assessment Screening for Development Management. March 2021.

There are up to four successive stages involved in the Appropriate Assessment process. The outcome at each stage determines whether the next stage in the process is required. The following describes each of the four stages:

Stage 1 – Screening

The purpose of the screening stage is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, alone and in-combination with other plans or projects, is likely to have significant effects on a Natura 2000 site in view of the site's conservation objectives.

There is no necessity to establish such an effect; it is merely necessary for the competent authority to determine that there may be such an effect. The need to apply the precautionary principle in making any key decisions in relation to the tests of Appropriate Assessment (AA) has been confirmed by the case law of the Court of Justice of the European Union (CJEU). Plans or projects that are not likely to have a significant effect on a European site may be excluded from further assessment. The threshold at this first stage is a very low one and operates as a trigger in order to determine whether a Stage Two AA must be undertaken by the competent authority on the implications of the proposed development for the conservation objectives of a European site. Therefore, where significant effects are likely, uncertain or unknown at screening stage, a second stage AA will be required.

Stage 2 – Appropriate Assessment

A Stage Two AA is a focused and detailed examination, analysis and evaluation carried out by the competent authority (in this case, An Bord Pleanála) of the implications of the plan or project, alone and in-combination with other plans and projects, on the integrity of a European site in view of that site's conservation objectives. Case law has established that such an Appropriate Assessment, to be lawfully conducted, in summary:

(i) must identify, in the light of the best scientific knowledge in the field, all aspects of the proposed development which can, by itself or in-combination with other plans or projects, affect the conservation objectives of the European site;

(ii) must contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps; and

(iii) may only include a determination that the proposed development will not adversely affect the integrity of any relevant European site where the competent authority decides (on the basis of complete, precise and definitive findings and conclusions) that no reasonable scientific doubt remains as to the absence of the identified potential effects. If adverse impacts can be satisfactorily avoided or successfully mitigated at this stage, so that no reasonable doubt remains as to the absence of the identified potential effects, then the process is complete. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to stage three and, if necessary, stage four.

Stage 3 – Assessment of Alternatives

This stage of the potential process arises where adverse effects on the integrity of a European site cannot be excluded and examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site.

Stage 4 – Imperative Reasons of Overriding Public Interest (IROPI)

This is the derogation process of Article 6(4), which examines whether there are imperative reasons of overriding public interest [IROPI] for allowing a project to proceed where adverse effects on the integrity of a European site have been predicted. Compensatory measures must be proposed and assessed as part of this stage.

1.3 Statement of Authority and Project Team

This report was prepared by Dr Brian Madden and is informed by the ecological survey data and relevant technical reports which accompany the planning application and a comprehensive literature review.

Brian Madden (BA. Mod. Hons., Ph.D., MCIEEM) qualified in Natural Sciences from Trinity College Dublin in the early 1980s and earned a doctorate degree from the National University of Ireland in 1990 for research in peatland ecosystem processes. Brian has worked on a wide range of wind farm and energy related projects since the late 1990s, from the planning stage through to construction and post-construction monitoring. Examples of projects include Oweninny Wind Farm Phase 1 & Phase 2, Co. Mayo, Grousemount Wind Farm, Cos. Cork/Kerry, Castlepook Wind Farm, Co. Cork, Letteragh Wind Farm, Co. Clare, Eglish Wind Farm, Co Tyrone, and Carrickatane Wind Farm, Co. Derry.

The ecological surveyors and their role in the Tirawley project are listed in **Table 1** below.

Table 1: Personnel involved in Ecological Assessment for Project.

Project Team Member	Qualifications & Experience	Role
Dr Brian Madden, BioSphere Environmental Services	BA. Mod. (Hons), PhD, MCIEEM Brian graduated in Natural Sciences from the University of Dublin in 1984 and earned a Ph.D. degree in 1990 from the National University of Ireland for his research on ecosystem processes in raised bogs. Since 1994, Brian has been the principal ecologist with BioSphere Environmental Services. Brian has carried out botanical surveys and habitat assessments for most terrestrial habitats which occur on the island of Ireland. He is also an experienced ornithologist, with particular	Preparation of EIAR Chapter 6; habitat assessment; terrestrial mammal survey

Project Team Member	Qualifications & Experience	Role
	interests in birds of prey and wetland birds. He has published a range of peer-reviewed research papers. Examples of energy projects that Brian has been involved in include: Grousemount Wind Farm, Cos. Cork/Kerry, Oweninny Wind Farm Phases 1 & 2, Co. Mayo, Castlepook Wind Farm, Co. Cork, Letteragh Wind Farm, Co. Clare, Kiltumper Wind Farm Co. Clare, Eglish Wind Farm, Co Tyrone, Connemara 110kV Overhead Line Reinforcement Project (40 km from Barna to Screeb Bay in Connemara.	
Dr John Conaghan, Enviroscope Environmental Consultancy	BSc, PhD, MCIEEM John has over 25 year's experience of working on botanical projects throughout Ireland. He is a habitat specialist, with particular expertise in peatland and wetland habitats, as well as rare plants. John has worked with Coillte on their LIFE funded habitat restoration programme - he regularly contributes this expertise to Species and Habitat Management Plans. Examples of energy projects that John has been involved in include: Oweninny Wind Farm Phases 1 & 2, Co. Mayo, The Galway Wind Park, Grousemount Wind Farm, Cos. Cork/Kerry, Castlepook Wind Farm, Co. Cork, BGE Corrib Gas Pipleline from Bellanaboy, Co. Mayo to Craughwell, Co. Galway.	Habitat and botanical surveys; Report input

Project Team Member	Qualifications & Experience	Role
John Curtin, Eire Ecology	BSc, Environmental Science (NUI Galway) John has been carrying out bat surveys at wind farm sites since 2012, and has completed all standard training for such work through Bat Conservation Ireland, Bat Detector Workshop and Bat Handling Workshop. John holds the relevant licences for handling and photographing bats. Examples of energy projects that John has provided bat assessments for include Yellow River Wind Farm, Co. Offaly, Boggeragh Wind Farm, Co. Cork, Cappawhite B Wind Farm, Co. Tipperary, Glenmore Wind Farm, Co. Clare.	Implementation of Bat Survey for project, badger survey. Analysis of bat data and preparation of risk assessment and mitigation report (Appendix 6.2).
Dr William O'Connor, Ecofact Environmental Consultants	PhD, MSc, BSc, CBiol, CEnv, FRSB, MCIEEM Member of the Institute of Fisheries Management William has over 30 year's experience working in aquatic ecology throughout Ireland. He regularly assesses impacts on aquatic ecology for wind energy projects.	Aquatic ecology field surveys and preparation of Aquatic Ecology Assessment report (Appendix 6.3).

1.4 Data Sources to Carry Out Assessment

The assessment is supported by the following sources of data and information, including chapters of the accompanying EIAR:

- Review of relevant environmental databases including National Biodiversity Ireland Database
- Review of NPWS Site Synopses & Conservation Objectives for relevant European sites
- Review of NPWS (2019) The Status of EU Protected Habitats and Species in Ireland report
- Review of online web-mappers: National Parks and Wildlife Service (NPWS) & EPA
- Review of OS map and aerial photographs of the site and surroundings of the proposed project

- Review of other plans and projects within the area
- EIAR Chapter 2. Development Description prepared by Jennings O'Donovan
- EIAR Chapter 6. Biodiversity prepared by BioSphere Environmental Services
- EIAR Chapter 7. Ornithology prepared by BioSphere Environmental Services
- EIAR Chapter 8. Soils and Geology prepared by Whiteford Geoservices Ltd.
- EIAR Chapter 9. Hydrology and Hydrogeology prepared by Hydro-Environmental Services
- EIAR Volume IV (Appendix 2.1): Construction Environmental Management Plan (CEMP) prepared by Jennings O'Donovan (attached as Appendix 1 to the present NIS)

2 SCREENING FOR APPROPRIATE ASSESSMENT

Screening determines whether appropriate assessment is necessary by examining:

1. Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a Natura 2000 site;
2. Whether it is possible that the project may have a significant effect on a Natura 2000 site, either alone or in combination with other projects or plans, in view of the site's conservation objectives.

Screening involves the following:

i. Description of plan or project;
ii. Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives;
iii. Assessment of likely effects – direct, indirect and cumulative – undertaken on the basis of available information as a desk study or field survey or primary research as necessary;
iv. Screening Statement with conclusions.

2.1 Site Description

The Proposed Development is located approximately 5.2 km northwest of the village of Killala and approximately 4 km east-southeast of Ballycastle village in north Mayo (see **Figure 1**). The redline boundary of the Wind Farm covers a total area of approximately 108.06 ha. The Site, including the Grid Connection Route, is situated within a large number of townlands (see **EIAR Chapter 2**). The site is accessed via local public roads which branch off the R314.

The Site, and especially the northern sector, is situated within a landscape which previously had been dominated by blanket bog and heath. Much of this has now been cut or converted to pasture grassland used for grazing cattle and sheep, with fields often small in size and bounded by hedgerows. Commercial coniferous forestry is a feature of the area. There are no significant industrial or commercial facilities in the immediate vicinity of the site for the wind farm.

The elevations within the Wind Farm Site range from approximately 20 m to 155 m OD. The highest elevations are in the north of the Site on the southern and eastern slopes of Knockboha Hill (peak of 186 m OD). A further high point of 137 m occurs in the central area (Barnhill). The southern section of the Wind Farm Site is located on lower ground with topography sloping gently to the southeast towards Cloonaghmore Estuary and Killala Bay.

The bedrock geology underlying the Wind Farm Site is mapped predominantly as Dinantian Sandstones, Shales and Limestones of the Downpatrick Formation (see details in **Chapter 8: Soils and Geology**). The OSI Online Database indicates that Peat (Blanket Bog) is the primary soil type present across the site of the Wind Farm, which overlies Glacial Till derived from Sandstones and Limestones, with Alluvium in river valley bottoms. The majority of the peat covering the redline boundary area of the site is shallow with a depth of less than 0.5 m.

On a regional scale, the Wind Farm Site is located in the Blacksod-Broadhaven Bay surface water catchment within Hydrometric Area 33 of the Western River Basin District (for details of drainage see **Chapter 9: Hydrology and Hydrogeology).** Locally the Wind Farm Site is mapped in 3 no. WFD river sub-basins (see **Figure 2**):

- The majority of the Wind Farm Site is located in the Cloonalaghan_010 river sub-basin. This area is drained by the Carn River and several 1st and 2nd order streams all of which discharge into the Cloonalaghan River, which flows in a northeast direction before discharging into Lackan Bay.
- The northeast of the Wind Farm Site is located in the Knockboha_010 river sub-basin. This area of the Wind Farm Site is drained by several 1st order streams which flow downslopes to the east into Lacken Strand. The watercourses in the vicinity of the Wind Farm Site are locally unnamed and are referred to by the EPA as the Castletown stream. This watercourse is mapped to originate ~250 m northeast of wind turbine AT15.

Ecologically, the area in which the Wind Farm Site is located is dominated by agricultural grassland which varies from Improved agricultural grassland (GA1) to Wet grassland (GS4) depending on the intensity of management. Overall, much of the grassland could be described as semi-improved. The fields are mostly bounded by Hedgerows (WL1), which are typically of a low stature. Conifer plantation (WD4) is a main habitat in the area and especially in the southwest sector. Intact Lowland blanket bog (PB3) is now scarce in the area of the Wind Farm, though some relatively intact blanket bog remnants, as well as Cutover bog (PB4), occurs in the northern (Lackanhill) and north-central sectors (Cloonanass-Lissadrone). It is noted that more extensive blanket bog occurs on the summit area of Knockboha Hill outside of the Wind Farm study area, as well on the extensive plateau area between the R314 and R315 roads to the south of Ballycastle. The watercourses within the study site, which are described in detail in the Aquatic Ecology Assessment (**Chapter 6, Appendix 6.3**) and in **Chapter 9** of EIAR are classified mainly as Depositing/lowland rivers (FW2). Drainage ditches (FW4) are associated with most of the pasture fields. Other habitats which occur over small areas are Broadleaved

woodland (WD1), Scrub (WS1), Disturbed ground (ED) (including disused quarry), and Buildings and artificial surfaces (BL3).

The Grid Connection, which extends over a length of 13.55 km, is almost entirely along public roads (BL3) (see **Figure 3**). The roads typically are lined with low hedgerows (WL1) and grassy verges (GS2). On leaving the proposed substation within the wind farm site, the grid connection passes through pasture grassland and a stand of Broadleaved woodland (WD1) with some conifers mixed in.

The options for the Turbines Delivery Routes, from the port of Killybegs, Co. Donegal, from Galway Port, Co. Galway, or from Foynes Port, Co. Limerick, are along existing public roads (BL3). The stage from Ballina to the Site is common to all three options (see **Figure 4**). Full details of the route options are given in **Chapter 17** and **Appendix 17.1.** of the EIAR.

From a wider conservation perspective, the Killala Bay system is the dominant feature of the local area. Much of the inner bay, including the Rathfran Bay inlet, is designated as an SAC and an SPA, as is Lackan Bay to the northwest of Killala Bay. Further to the west of the Wind Farm Site, extensive expanses of blanket bog become a feature of the landscape.

A full description of the Habitats, Flora and Fauna associated with the Project is presented in **Chapter 6** of the accompanying EIAR.

Figure 1: Location of site and layout for proposed Tirawley Wind Farm.

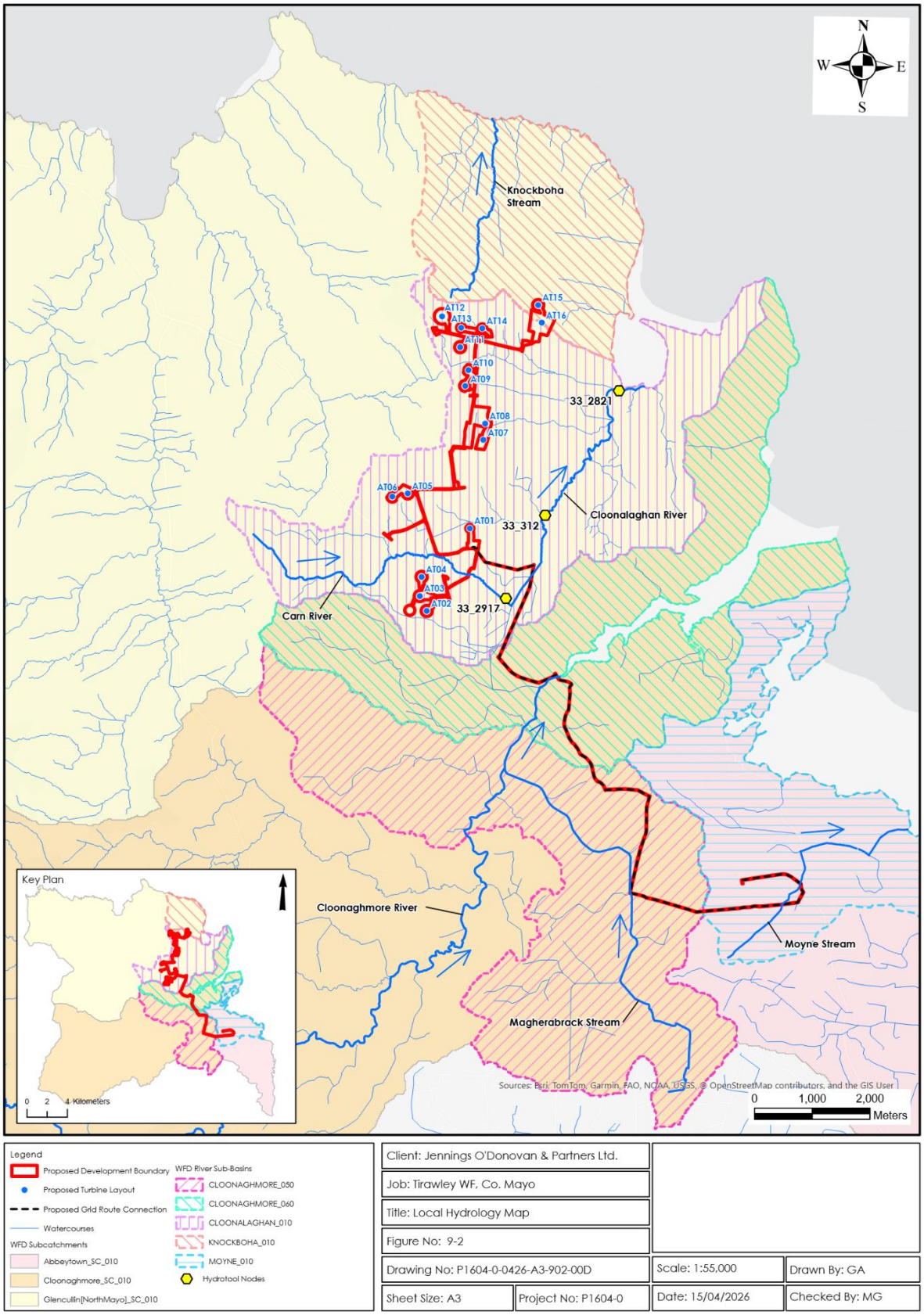

Figure 2: Local hydrology map (from EIAR Chapter 9).

LEGEND	Client Representative	Client				
Met Mast Location Point Turbine Location Points Tawnaghmore 110kV Substation Proposed 110kV Grid Route BESS Proposed 110kV Substation Proposed Development Redline	JENNINGS O'DONOVAN	CONSTANT ENERGY LIMITED.	Drg. By	DT	Job No.	6289
	JENNINGS O'DONOVAN AND PARTNERS LIMITED	Project TIRAWLEY WIND FARM, CO. MAYO	Checked By	MG	Figure	1.2
			Approved	DT	Rev	0
	CYAL50512615 © Tailte Éireann – Surveying.	Title PROPOSED GRID CONNECTION ROUTE	Scale	1:30,000 (A3)		
			Stage	Planning		
			Date	10/03/2026		

Figure 3: Grid connection route from Tawnaghmore 110kV Substation for proposed Tirawley Wind Farm.

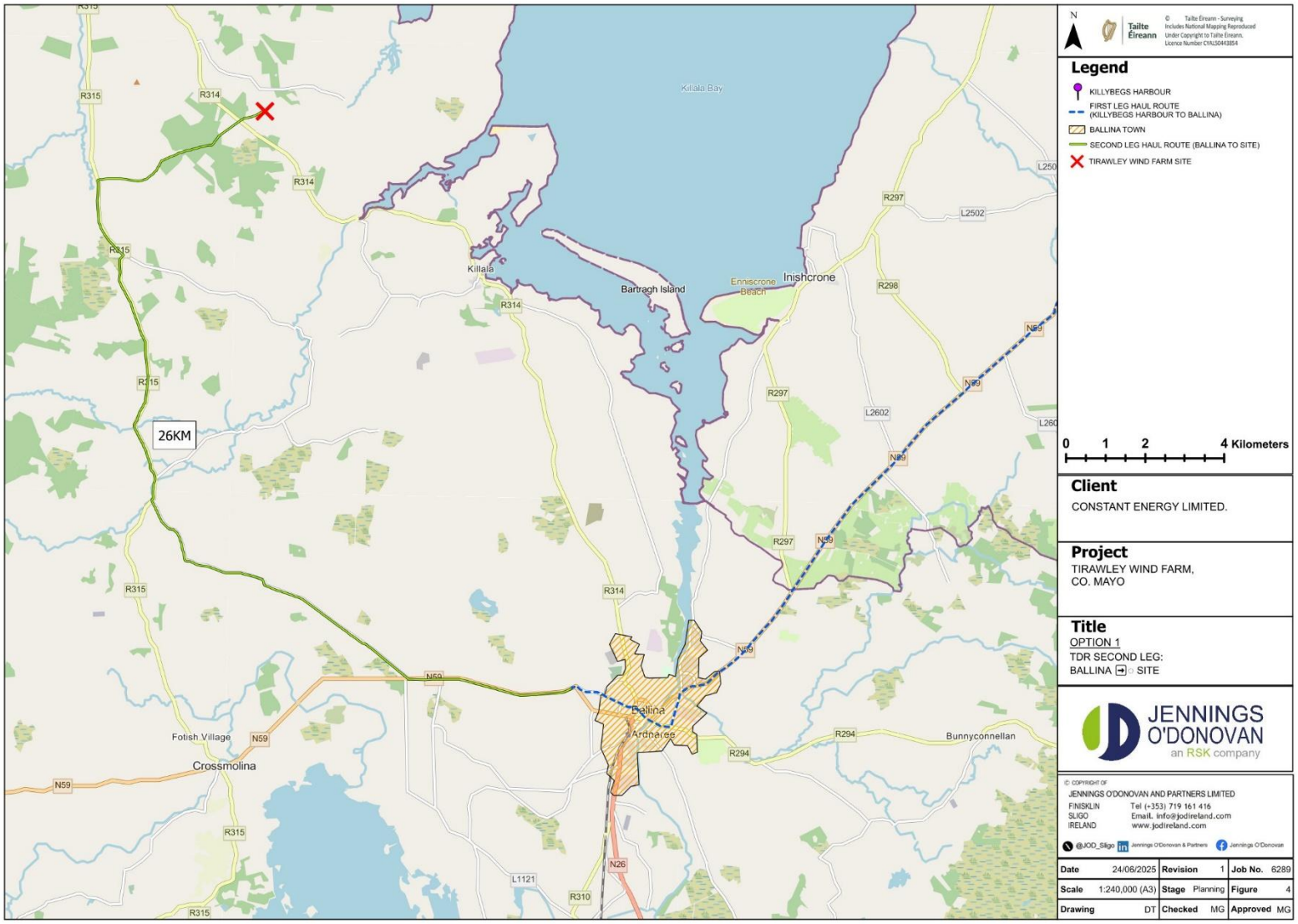

Figure 4: Section of Turbine Delivery Route from Ballina to site of proposed Tirawley Wind Farm.

2.2 Overview of the Project

Planning Permission is being sought by the Developer for the construction of 16 No. Wind Turbines with a maximum output of 68.8 MW, 1 No. meteorological mast, a permanent operations compound, an on-site substation and all ancillary works, Battery Energy Storage System (BESS), 17 no. Spoil Deposition Areas, works along the Turbine Delivery Route and the construction of an underground grid connection to Tawnaghmore 110kV substation, Killala Business Park, Co. Mayo.

A detailed description of the Proposed Development has been included in **Chapter 2: Development Description**. An outline of the Development is as follows:

- Construction of 16 no. Vestas V117 (4.3 MW) IEC IIA – T wind turbines. This specific model with a blade tip height of 135 m, was selected as the candidate turbine and its associated parameters were used to determine the significant environmental effects associated with the Proposed Development. No flexibility in terms of turbines dimensions is sought as part of the application for Planning Permission
- Construction of permanent Turbine Hardstands and Turbine Foundations
- Change the use of a residential site and vacant dwelling to a Permanent Operations Compound consisting of an operations office, storage area and staff parking
- Construction of two Temporary Construction Compounds with associated temporary site offices, parking areas and security fencing
- Installation of 1 no. (35-year life cycle) meteorological mast with a height of up to 80 m and a 4 m lightning pole on top
- Development of 17 no. permanent onsite spoil deposition areas
- Construct 5 no. new permanent site entrances as described in the EIAR **Chapter 17: Traffic and Transport** and **Figure 2.1**.
- Upgrade 9 no. existing site entrances as described in the EIAR **Chapter 17**: **Traffic and Transport** and **Figure 2.1.**
- Works for new and upgraded entrances include clearing visibility splays of vegetation, widening the entrances to allow HGVs turn onto local public roads and the R314, excavation to solid formation level, installation roadside drainage features, placing entrance sub-base with rockfill materials, placing capping level and providing surface dressing where necessary.
- Road construction works within the Wind Farm Site consisting of the construction of approximately 9.64 km of new Site Access Tracks through the Wind Farm Site. The upgrading of 1.76 km of private Access Tracks and 1.58 km of public roads within the Wind Farm Site, road verge widening, hedge trimming and all associated infrastructure and drainage works as described in EIAR **Chapter 17: Traffic and Transport** and the **Turbine Delivery Route Report Appendix 17.1.**
- Forestry felling of approximately 31.86 ha of coniferous forest will be required to facilitate the construction of the Proposed Development. For the purposes of this Proposed Development, the Developer commits that the location of any replanting (alternative afforestation) associated with the Proposed Development will be greater than 10 km from the Wind Farm Site and also

outside any potential hydrological pathways of connectivity i.e. outside the catchment within which the Proposed Development is located. The extent of felling required to be licensed for the purpose of giving effect to the Proposed Development can only be determined once planning permission for the Proposed Development has been granted. It will be a condition of the felling licence that an equivalent area of land required to be felled shall be replanted. The felling will be subject to a separate planning application which, in practical terms, can only be made once planning permission for the Proposed Development has been granted.

- All associated site development works including berms, landscaping, and soil excavation.
- Development of an internal site drainage network and sediment control systems.
- Construction of 1 no. 110 kV electrical substation including 2 no. control buildings with welfare facilities, all associated electrical plant and equipment, security fencing and gates, all associated underground cabling, wastewater holding tank, and all ancillary structures and works (the 'Wind Farm substation').
- Installation of battery arrays located within container units (20 no. units) and associated electrical plant for grid stabilisation adjacent to the Onsite Substation building (with up to 150 MW storage capacity) with surrounding palisade fence 2.65 m in height;
- All associated underground electrical and communications cabling connecting the wind turbines to the Wind Farm substation.
- All works associated with the permanent connection of the Wind Farm to the national electricity grid comprising of a 110 kV underground cable system in permanent cable ducts from the proposed, Wind Farm substation, in the townland of Barroe to the existing Tawnaghmore substation at the Killala Business Park.

A 10-year planning permission and 35-year operational life from the date of commissioning of the entire Wind Farm (apart from the substation) is being sought. This reflects the lifespan of modern-day turbines. The EIAR assesses the Project which includes the Proposed Development as outlined above; it includes improvements and temporary accommodation requirements to the existing public road infrastructure to facilitate delivery of abnormal loads and turbine delivery.

The proposed project includes the Proposed Development as outlined above (all within Red Line boundary), as well as improvements and temporary accommodation requirements to the existing public road infrastructure to facilitate delivery of abnormal loads and turbine delivery.

2.2.1 Wind Farm Grid Connection

Details of the Wind Farm grid connection are given in **Chapter 2: Development Description** (**section 2.6.12**) of EIAR.

Connection will be sought from the grid system operators by application to EirGrid. The substation will connect via underground 110 kV cable at the existing Tawnaghmore 110 kV Substation. The cable will connect into existing infrastructure within the confines of the substation and its compound.

The route of this underground grid connection is provided in **Figure 3**. The overall length of the grid connection between the Wind Farm substation and the existing Tawnaghmore 110 kV substation is 13.55 km, of which 12.43 km is located along the public road corridor and 1.12 km is located within the Killala Business Park grounds.

The Grid Connection will be constructed to the requirements and specifications of EirGrid. The electricity will be transmitted as a three-phase power supply meaning there will be three individual conductors in each cable circuit. The three conductors will be laid in separate ducts which will be laid in accordance with EirGrid functional specifications (CDS-GFS-00-001-R1) for 110kV underground cables. The width of a 110 kV cable trench with a trefoil formation will be 600 mm. The depth of the trench for 110kV cables is 1.335 m. A separate duct will be provided within the trench for fiber optic communications.
The north of the Grid Connection, in the vicinity of the Wind Farm Site, is located in the Blacksod-Broadhaven Bay surface water catchment. Further south, the vast majority of the Grid Connection is located in the Moy and Killala Bay surface water catchment within Hydrometric Area 34 (see **Figure 2** and **Chapter 9** of EIAR for full details).

In the Blacksod-Broadhaven Bay surface water catchment, all surface watercourses along the Grid Connection flow to the southeast towards the Cloonalaghan River. Within the Moy and Killala Bay surface water catchment, all surface watercourses along the Grid Connection flow to the west towards the Cloonaghmore River.

At bridge locations it is proposed to achieve crossings through the installation of cable ducting in the roadside verge (or within the road itself) or through the use of horizontal directional drilling (HDD).

2.2.2 Turbine Delivery Route(s)

The accompanying EIAR has considered three possible Turbine Delivery Routes:
Option 1 - Killybegs Port: It is proposed that turbine nacelles, tower hubs and rotor blades will be landed in Killybegs Port (Donegal). From there, they will be transported to the Wind Farm Site via the R263, N56, N15, N4, N59, L-1141, R294, L-1119, N59, L-1108, R315, L-51722, L-51732 and the R314 (as shown in **Chapter 2**: **Figure 2.8).**
Option 2 - Galway Port: It is proposed that turbine nacelles, tower hubs and rotor blades will be landed in Galway Port (Galway). From there, they will be transported to the Wind Farm Site via the R339, R336, N83, N17, N5, L-1331, N5, N58, N26, N59, L-1108, R315, L-51722, L-51732 and the R314 (as shown in **Chapter 2: Figure 2.9)**.
Option 3 - Foynes Port: It is proposed that turbine nacelles, tower hubs and rotor blades will be landed in Foynes Port (Limerick). From there, they will be transported to the Wind Farm Site via the N67, N69, N18, M18, M17, N17, N5, L-1331, N5, N58, N26, R294, N59, L-1108, R315, L-51722, L-51732 and the R314 (as shown in **Chapter 2**: **Figure 2.10).**

The EIAR has assessed the above three options (**Chapter 17: Traffic and Transportation** & **Appendix 17.1 Turbine Delivery Route Report),** with a particular focus on the final leg of the TDR between the Wind Farm Site and the Northern part of Ballina town Co. Mayo (see **Figure 4**).

2.2.3 Decommissioning

A Decommissioning Plan is contained within the CEMP which accompanies the EIAR (attached here as **Appendix 1**). There follows an overview of the decommissioning process.

The Developer is applying for a consent for an operational period of 35 years for the Wind Farm. It is intended that all above ground components and underground cabling (ducting left in-situ) will be removed from the Wind Farm Site as part of the decommissioning of the Tirawley Wind Farm. The following elements are included in the decommissioning phase:

- Wind turbines dismantling and removal off the Wind Farm Site
- Underground cabling removal, including along Grid Connection Route (ducting left in-situ)
- Turbine Foundation backfilling following dismantling and removal of wind turbines (any excavated material, will be re-instated / foundations that protrude above ground level will be backfilled with soil)
- Transport Route Accommodation Works

Prior to wind turbine removal, due consideration will be given to any potential impacts arising from these operations. Potential impacts are likely to be similar to that of the construction phase, to an equal or lesser extent. Some of the potential issues could include:

- Potential disturbance by the presence of cranes, HGVs, and personnel on-site
- Time of year and timescale (to be outside sensitive periods).

Prior to the decommissioning work, a comprehensive plan will be drawn up and submitted to An Coimisiún Pleanála for written agreement. The plan will take account of the findings of the EIAR for the present project and the contemporary best practice at that time, to manage and control the component removal and ground reinstatement.

2.3 Method and Identification of Relevant European Sites

The approach to screening is likely to differ somewhat between plans and projects, depending on scale and on the likely effects, but the following should be included (following the “Guidance for Planning Authorities”, Department of Environment, Heritage and Local Government):

1. Any Natura 2000 sites within or adjacent to the plan or project area.
2. Any Natura 2000 sites within the likely zone of impact of the plan or project. A distance of 15 km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al. 2006). For projects, the distance could be much less than 15km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference

to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in-combination effects.

3. Natura 2000 sites that are more than 15 km from the plan or project area depending on the likely impacts, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the case of sites with water dependent habitats or species, and a plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment.

The "Guidance for Planning Authorities" notes the following in section 3.2.3 "Natura 2000 Sites":

"The second stage (of the AA Screening process) is an examination of what Natura 2000 sites might be affected. These sites should be identified and listed, bearing in mind the potential for a plan or project, whether it is within or outside a Natura 2000 site, to have direct, indirect or cumulative effects, and taking a precautionary approach so that a site is included if doubt exists".

The OPR Practice Note PN01 document provides as follows in relation to the identification of relevant European Sites (pg.11), *inter alia*:

"Applications within or immediately adjacent to a European site"

All proposed development located either partially or wholly within or immediately adjacent to a SAC or SPA should be easily identifiable from examining GIS mapping. These European sites should be automatically selected for consideration in the screening exercise.

"Identification of other European sites"

The identification of European sites within a 15km zone has become common practice in screening projects for AA. However, this approach is not based on the S-P-R model and should not be used for projects. Few projects have a zone of influence this large, but some more complex projects may require a greater zone of investigation.

Instead, the zone of influence of a project should be considered using the Source-Pathway-Receptor model. This should avoid lengthy descriptions of European sites, regardless of whether they are relevant to the proposed development, and a lack of focus on the relevant European sites and issues of importance.

For the Tirawley Project, all European Sites that could potentially be affected were identified using a Source-Pathway-Receptor conceptual model for environmental management risk assessment. To provide context for the assessment, European Sites within a distance of 15 km surrounding the development site are shown on **Figure 5**. Information on these sites with regard to their conservation objectives and connectivity to the Project is provided in **Table 2**.

Sites that were further away from the proposed development were also considered and no realistic Source-Pathway-Receptor chain for significant effect was identified for any European Site that was further than 15 km from the study site.

A total of seven European sites are identified where consideration is given for the potential of the proposed Project to impact on the Conservation Objectives of the respective sites. These sites are listed in **Table 2** and mapped in **Figure 5.** The seven sites are:

- Lackan Saltmarsh and Kilcummin Head SAC (code 000516)
- Killala Bay/Moy Estuary SAC (code 000364)
- River Moy SAC (code 002315)
- Bellacorick Bog Complex SAC (code 001972)
- Glenamoy Bog SAC (code 00500)
- Killala Bay/Moy Estuary SPA (code 004036)
- Lough Conn and Lough Cullen SPA (code 004228)

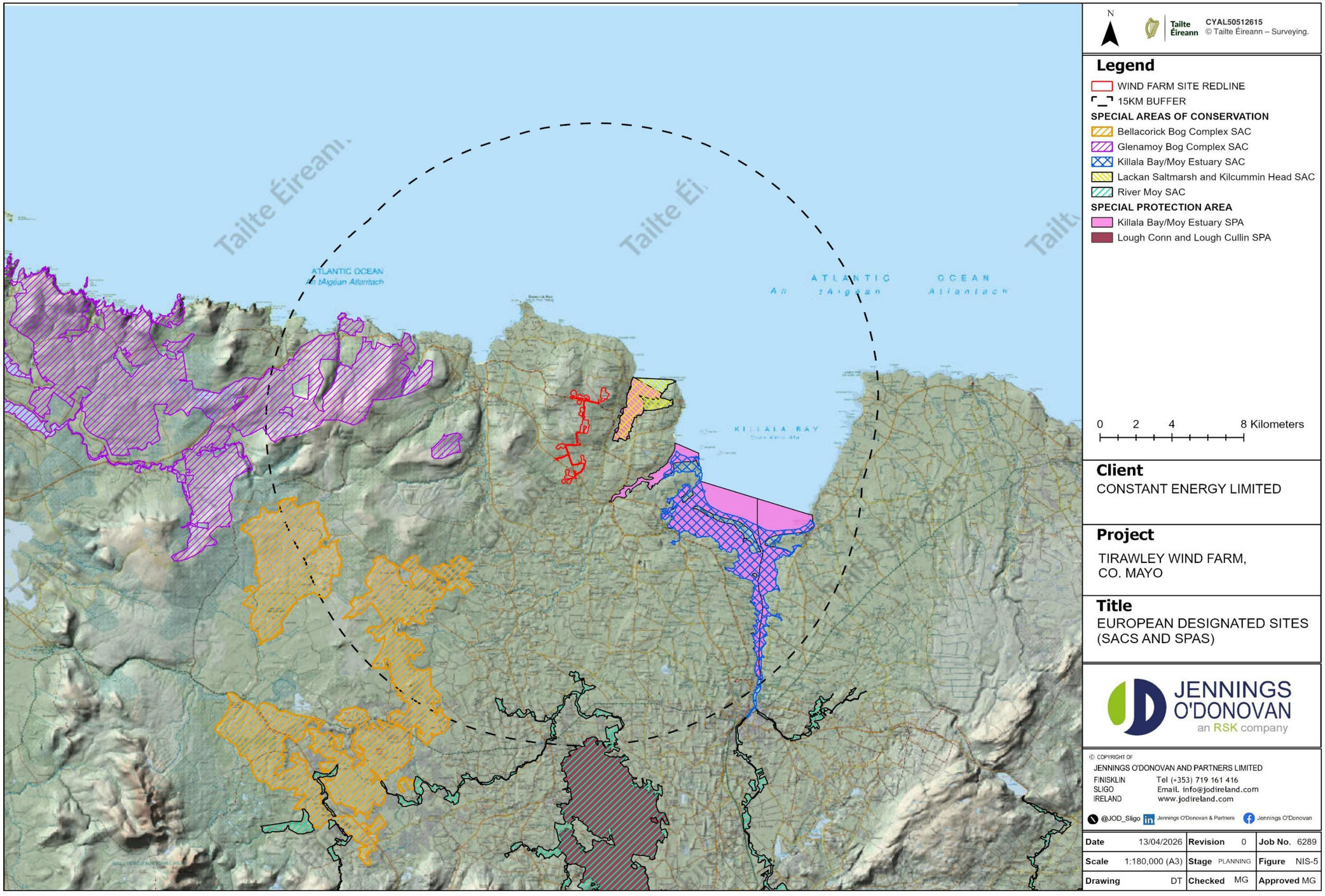

Figure 5: Locations of European designated sites within a 15 km radius of the proposed Tirawley Wind Farm Site.

Table 2: Relevant European sites, reasons for designation, distances from Project Area and summary of connectivity.

European Site	Reasons for designation (information correct as of 7th April 2026) (*denotes a priority habitat)	Distance from Project Area and summary of connectivity
	SPECIAL AREAS OF CONSERVATION	
Lackan Saltmarsh and Kilcummin Bay SAC (site code 00516)	Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] *Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] According to this SAC's site Conservation Objectives document: NPWS (22 Dec 2016) Conservation Objectives: Lackan Saltmarsh and Kilcummin Head SAC, Version 1.0. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, for each of the listed QIs, the Conservation Objective is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.	The north-easternmost sector of the Proposed Development is approximately 1.2 km from the SAC (closest straight-line distance). There is no ecological continuity between the two locations. The Wind Farm Site is hydrologically connected with Lackan Bay via the Cloonalaghan River and several other small watercourses which drain the east of the site. It is concluded that there is hydrological connectivity between the Wind Farm Site and the SAC. There is no connectivity between the Grid Connection Route and the SAC or the Turbine Delivery Route and the SAC.
Killala Bay / Moy Estuary SAC (site code: 00458)	Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	The Wind Farm Site is (at closest straight-line distance) approximately 4.0 km west-northwest of the SAC. There is no ecological or hydrological connectivity between the Wind Farm Site and the SAC. The Grid Connection Route is hydrologically linked with the SAC via the Cloonaghmore River.

European Site	Reasons for designation (information correct as of 7th April 2026) (*denotes a priority habitat)	Distance from Project Area and summary of connectivity
	Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] *Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Petromyzon marinus (Sea Lamprey) [1095] Phoca vitulina (Harbour Seal) [1365] According to this SAC's site Conservation Objectives document: NPWS (2012), Conservation Objectives for Killala Bay/Moy Estuary SAC [00458]. Version 1.0. Department of Arts, Heritage and the Gaeltacht, for each of the listed QIs, the Conservation Objective is to maintain the favourable conservation condition of the Annex I habitats and/or the Annex II species for which the SAC has been selected.	The Turbine Delivery Route is not hydrologically linked with the SAC. It is concluded that there is hydrological connectivity between the Grid Connection component of the Project and the SAC.
River Moy SAC (site code: 002298)	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510] *Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150] Alkaline fens [7230]	The Wind Farm Site is located approximately 11 km north of the SAC. There is no ecological or hydrological connectivity between the Wind Farm Site and the SAC. The Grid Connection Route is not hydrologically linked to the River Moy SAC.

European Site	Reasons for designation (information correct as of 7th April 2026) (*denotes a priority habitat)	Distance from Project Area and summary of connectivity
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355] According to this SAC's site Conservation Objectives document: NPWS (2016): Conservation Objectives: River Moy SAC, Version 1. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, for each of the listed QIs, the Conservation Objective is to maintain the favourable conservation condition of the Annex I habitats and/or the Annex II species for which the SAC has been selected.	The Turbine Delivery is not hydrologically linked to the River Moy SAC. It is concluded that there is no ecological or hydrological connectivity between any aspect of the Project and the River Moy SAC.
Bellacorick Bog Complex SAC (site code: 001972)	Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with Erica tetralix [4010] Blanket bogs (* if active bog) [7130] Depressions on peat substrates of the Rhynchosporion [7150] Alkaline fens [7230] Vertigo geyeri (Geyer's Whorl Snail) [1013] Saxifraga hirculus (Marsh Saxifrage) [1528]	The Wind Farm Site is approximately 7 km northeast of the SAC. There are no ecological or hydrological linkages between the Wind Farm Project area, including the Grid Connection Route and the Turbine Delivery Route, and the SAC. It is concluded that there is no ecological or hydrological connectivity between Wind Farm Project Area and the SAC.

European Site	Reasons for designation (information correct as of 7th April 2026) (*denotes a priority habitat)	Distance from Project Area and summary of connectivity
	According to this SAC's site Conservation Objectives document: NPWS (6 Oct 2017), Conservation Objectives for Bellacorick Bog Complex SAC [001922]. Version 1.0. Department of Culture, Heritage and the Gaeltacht, for each of the listed QIs, the Conservation Objective is to maintain the favourable conservation condition of the Annex I habitats and/or the Annex II species for which the SAC has been selected.	
Glenamoy Bog Complex SAC (site code: 00500)	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Machairs (* in Ireland) [21A0] Natural dystrophic lakes and ponds [3160] Northern Atlantic wet heaths with Erica tetralix [4010] Juniperus communis formations on heaths or calcareous grasslands [5130] Blanket bogs (* if active bog) [7130] Transition mires and quaking bogs [7140] Depressions on peat substrates of the Rhynchosporion [7150] Salmo salar (Salmon) [1106] Petalophyllum ralfsii (Petalwort) [1395] Saxifraga hirculus (Marsh Saxifrage) [1528] Hamatocaulis vernicosus (Slender Green Feather-moss) [6216] According to this SAC's site Conservation Objectives document: NPWS (30 June 2017), Conservation Objectives for Glenamoy Bog Complex SAC [00500]. Version 1.0. Department of Arts, Heritage,	The Wind Farm Site is approximately 5 km east of the nearest sector of the SAC (namely the bog outlier along the Owenpollaphuca River). There are no ecological or hydrological linkages between the Wind Farm Project area, including the Gride Connection Route and the Turbine Delivery Route, and the SAC. It is concluded that there is no ecological or hydrological connectivity between Wind Farm Project Area and the SAC.

European Site	Reasons for designation (information correct as of 7th April 2026) (*denotes a priority habitat)	Distance from Project Area and summary of connectivity
	Regional, Rural and Gaeltacht Affairs, for each of the listed QIs, the Conservation Objective is to maintain the favourable conservation condition of the Annex I habitats and/or the Annex II species for which the SAC has been selected.	
	SPECIAL PROTECTION AREAS	
Killala Bay / Moy Estuary SPA (site code: 004036)	Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Sanderling (Calidris alba) [A144] Dunlin (Calidris alpina) [A149] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Wetland and Waterbirds [A999] According to this SPA's site Conservation Objectives document: NPWS 2013, Conservation Objectives: Killala Bay/Moy Estuary SPA 004036. Version 1.0, Department of Arts, Heritage, and the Gaeltacht, for each of the listed SCIs, the Conservation Objective is to maintain the favourable conservation condition of the species for which the SPA has been selected.	The Wind Farm Site is just over 1 km from the Lackan Bay and Rathfarn Bay inlets of the SPA. Between the northernmost sector of the Wind Farm Site and the SPA there is degraded blanket bog and pasture fields, mostly wet grassland, which provides a low level of ecological continuity between the two locations. Some of the habitats within the wind farm site, i.e. improved/semi-improved grassland and wet grassland, potentially provide habitat for inland feeding wader species (golden plover & curlew) associated with the SPA. The Wind Farm Site is hydrologically connected with Lackan Bay via the Cloonalaghan River and several other small watercourses which drain the east of the site. The Grid Connection Route is hydrologically linked with the SPA via the Cloonaghmore River. It is concluded that there is ecological and hydrological connectivity between the Wind Farm Site and the SPA, and hydrological connectivity between the Grid Connection Route and the SPA.

European Site	Reasons for designation (information correct as of 7th April 2026) (*denotes a priority habitat)	Distance from Project Area and summary of connectivity
Lough Conn and Lough Cullin SPA (site code: 004228)	Tufted Duck (Aythya fuligula) [A061] Common Scoter (Melanitta nigra) [A065] Common Gull (Larus canus) [A182] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Wetland and Waterbirds [A999] According to this SPA's site Conservation Objectives document: NPWS 2025, Conservation Objectives: Lough Conn and Lough Cullin SPA 004228. Version 1.0, Department of Housing, Local Government and Heritage, for each of the listed SCIs, the Conservation Objective is to maintain the favourable conservation condition of the species for which the SPA has been selected. In recognition of wetland habitat, the Conservation Objective is: To maintain or restore the favourable conservation condition of the wetland habitat at Lough Conn and Lough Cullin SPA as a resource for the regularly occurring migratory waterbirds that utilise it	The Wind Farm Site is approximately 14 km north of the northernmost sector of the SPA. There are no ecological or hydrological linkages between the Wind Farm Project area, including the Grid Connection Route and the Turbine Delivery Route, and the SPA. The Lough Conn population of Greenland white-fronted geese feeds mainly on grassland within (islands) and around the lake. One feeding site on blanket bog is known within the Ox Mountains (Fox et al. 1994). There are no known or historic feeding sites northwards towards Killala or Ballycastle. Lough Conn is selected for breeding common scoter. The most recent national survey in 2020 recorded 1 pair on Lough/Cullin (Hunt et al. 2022). In winter, common scoter occurs in shallow waters less than 20 m deep, with coarse sandy substrates, where they feed predominantly on benthic bivalve molluscs. They tend to congregate in large flocks (hundreds to low thousands). Donegal Bay supports the largest winter population in the north-west region. In County Mayo, the largest flock occurs in Blacksod and Broadhaven bays (Crowe 2005). There are no regular winter flocks off the north Mayo coast. It is concluded that there is no ecological or hydrological connectivity between Wind Farm Project Area and the SPA.

2.4 Assessment of Potential for Impacts and Significant Effects

As noted, a total of seven European sites are identified where consideration is given for the potential of the proposed project to impact on their Conservation Objectives. These sites are listed in **Table 2** and mapped in **Figure 4**.

The assessment of potential impacts considers and assesses the Vestas V117 (4.3 MW) IEC IIA – T wind turbine parameters. The key turbine parameters can be seen in **Table 3**.

Table 3: Turbine Parameters

Turbine Parameter	Assessment Envelope
Turbine Blade Tip Height	135 m
Rotor Diameter	117 m
Hub Height	76.5 m

There follows an evaluation of each of the seven sites (as summarised in **Table 2**) in respect of the potential for effects on the respective Conservation Objectives as a result of the proposed project during construction, operational and decommissioning phases.

2.4.1 Lackan Saltmarsh and Kilcummin Head SAC

The Wind Farm Site has connectivity with the SAC as drainage from the site is to the Cloonalaghan River and other smaller watercourses which flow into the Lackan Bay system.

Potential construction phase, and to a lesser extent the operational and decommissioning phases, effects relate to the release of suspended solids/nutrients, cementitious materials and hydrocarbons into the drainage network arising from the works, including tree felling works.

As the conservation objectives of the identified European site could potentially be affected adversely, measures are required to avoid or reduce harmful effects of the proposed project, i.e. *mitigation measures*. Therefore, as the risk of potential significant effects on this European site cannot be ruled out, **Section 3** of this report provides information to allow the competent planning authority to carry out appropriate assessment for the Proposed Project.

2.4.2 Killala Bay / Moy Estuary SAC

The Wind Farm Project has connectivity with the SAC as drainage from sections of the Grid Connection Route is to the Cloonaghmore River, which enters the Rathfarn Bay inlet at Palmerstown Bridge, approximately 3 km upstream of the SAC. The Grid Connection Route also crosses a stream in the townland of Rathowen East, which enters Killala Bay east of Killala town.

Potential construction phase effects relate to the release of suspended solids/nutrients, cementitious materials and hydrocarbons into the drainage network arising from the works.
As the conservation objectives of the identified European site could potentially be affected adversely, measures are required to avoid or reduce harmful effects of the proposed project, i.e. *mitigation measures*. Therefore, as the risk of potential significant effects on this European site cannot be ruled out, **Section 3** of this report provides information to allow the competent planning authority to carry out appropriate assessment for the Proposed Project.

2.4.3 River Moy SAC

The Wind Farm Site is located approximately 11 km northwards from the SAC. There is no ecological or hydrological connectivity between the two locations.

It is noted that there is no ecological or hydrological connectivity between the River Moy SAC and the Grid Connection Route or the Turbine Delivery Route.

As it is considered that the qualifying interests of the SAC would not be affected in any way by the Proposed Project, either in the construction, operational or decommissioning phases, it is concluded that there is no potential for effects on this SAC and further assessment is not required.

2.4.4 Bellacorick Bog Complex SAC

The Wind Farm Site is approximately 7 km northeast of the SAC. The two locations are separated by extensive areas of commercial forestry and agricultural land. It is concluded that there is no ecological or hydrological connectivity between the two locations.

It is also noted that there is no ecological or hydrological connectivity between the Bellacorick Bog Complex SAC and the Grid Connection Route or the Turbine Delivery Route.

As it is considered that the qualifying interest of the SAC would not be affected in any way by the Proposed Project, either in the construction, operational or decommissioning phases, it is concluded that there is no potential for effects on this SAC and further assessment is not required.

2.4.5 Glenamoy Bog Complex SAC

The Wind Farm Site is approximately 5 km east of the nearest sector of the SAC, namely a bog outlier along the Owenpollaphuca River. The two locations are separated by extensive areas of agricultural land, commercial forestry and blanket bog. It is concluded that there is no ecological or hydrological connectivity between the two locations.

It is also noted that there is no ecological or hydrological connectivity between the Glenamoy Bog Complex SAC and the Grid Connection Route or the Turbine Delivery Route.

As it is considered that the qualifying interest of the SAC would not be affected in any way by the Proposed Project, either in the construction, operational or decommissioning phases, it is concluded that there is no potential for effects on this SAC and further assessment is not required.

2.4.6 Killala Bay / Moy Estuary SPA

The Wind Farm Site is just over 1 km from the Lackan Bay and Rathfarn Bay inlet components of the SPA.

Between the northernmost sector of the Wind Farm Site and the SPA there is degraded blanket bog and pasture fields, mostly wet grassland, which from an ornithological perspective provides a low level of ecological continuity between the two locations.

Some of the habitats within the wind farm, namely improved and semi-improved grassland and wet grassland, potentially provide suitable feeding habitat for inland feeding wader species (golden plover & curlew) associated with the SPA.

However, there was no evidence of inland feeding or of flights inland towards the area of the wind farm by these species during the vantage point watches or the Lackan Bay shoreline surveys (see **EIAR Chapter 7, sections 7.3.5** & **7.3.6**).

The Wind Farm Site is hydrologically connected with Lackan Bay via the Cloonalaghan River and several other small watercourses which drain the east of the site.

The Grid Connection Route is hydrologically linked with the SPA via the Cloonaghmore River, which enters the Rathfarn Bay inlet at Palmerstown Bridge, immediately upstream of the SPA.

The Turbine Delivery Route is not hydrologically linked with the SPA.

Potential construction phase, and to a lesser extent decommissioning phase, effects relate to the release of suspended solids/nutrients, cementitious materials and hydrocarbons into the drainage network arising from the works, including tree felling.

As the Special Conservation Interests of the SPA, including Wetland and Waterbirds, could potentially be affected adversely, measures are required to avoid or reduce harmful effects of the proposed project, i.e. *mitigation measures*. Therefore, as the risk of potential significant effects on this European site cannot be ruled out, **Section 3** of this report provides information to allow the competent planning authority to carry out appropriate assessment for the proposed development.

2.4.7 Lough Conn and Lough Cullin SPA

The Wind Farm Site is approximately 14 km north of the SPA. The two locations are separated by extensive areas of agricultural land, commercial forestry and various developments. It is concluded that there is no ecological or hydrological connectivity between the two locations.

It is also noted that there is no ecological or hydrological connectivity between the Lough Conn and Lough SPA and the Grid Connection Route or the Turbine Delivery Route.

As it is considered that the Special Conservation Interests of the SPA would not be affected in any way by the Proposed Project, either in the construction, operational or decommissioning phases, it is concluded that there is no potential for effects on this SPA and further assessment is not required.

2.5 AA Screening Concluding Statement

On the basis of objective scientific information, it is concluded that in the absence of mitigation, likely or possible significant effects on the Conservation Objectives of three of the European sites listed in **Table 2** (and listed below) could not be excluded during the construction, operational and/or decommissioning stages of the proposed development:

- Lackan Saltmarsh and Kilcummin Head SAC (code 00516)
- Killala Bay/Moy Estuary SAC (code 000364)
- Killala Bay/Moy Estuary SPA (code 002041)

As a result, it is respectfully submitted that the competent authority should carry out an Appropriate Assessment (AA) in respect of the Proposed Project. A Natura Impact Statement has been prepared to assist with the AA and is presented in Section 3 of this report.

For the other four sites within the identified zone of influence (as listed in Table 2), no pathway was identified between the site for the proposed Project (Source), including the Grid Connection Route and the Turbine Delivery Route, and the relevant European site (Receptor). Therefore, it is concluded beyond reasonable scientific doubt, and in view of the best available scientific knowledge, that there is no potential for likely significant effects on the Conservation Objectives of these four sites as a result of the proposed Project when considered alone or in combination with other plans and projects. The four sites are:

- River Moy SAC (code 002298)
- Bellacorick Bog Complex SAC (code 001972)
- Glenamoy Bog Complex SAC (code 00500)
- Lough Conn and Lough Cullin SPA (code 004228)

Accordingly, it is concluded that no further assessment is required for these four sites and that they can be ‘screened-out’. Measures intended to avoid or reduce the harmful effects of the Proposed Project on European sites, *i.e.* “mitigation measures”, have not been taken into account in this screening stage appraisal.

3 NATURA IMPACT STATEMENT

The assessment for screening for appropriate assessment presented in **Section 2** concludes that in the absence of mitigation, likely or possible significant effects on may arise as a result of the proposed Project on the Conservation Objectives of 3 no. European sites, as follows:

- Lackan Saltmarsh and Kilcummin Head SAC (code 000516)
- Killala Bay/Moy Estuary SAC (code 000364)
- Killala Bay/Moy Estuary SPA (code 002041)

The following assessments consider, in absence of mitigation, the potential of the Project to cause effects on the respective Conservation Objectives either directly or indirectly.

3.1 Potential for Effects on Lackan Saltmarsh and Kilcummin Head SAC

It is noted that the proposed Project does not have potential to have direct effects, such as disturbance to habitats or species, to any part of the Lackan Saltmarsh and Kilcummin Head SAC.

However, as noted in the assessment for AA Screening (**section 2.4.4** above), the construction phase, and to a lesser extent the operational and decommissioning phases, have the potential to cause negative effects to receiving watercourses and ultimately the conservation objectives of some of the qualifying interests of the SAC site.

The assessment for AA Screening identified hydrological connectivity between the Wind Farm Site and the Lackan Saltmarsh and Kilcummin Head SAC. **Chapter 9: Hydrology & Hydrogeology** of the EIAR provides a detailed account of the drainage of the project area and connectivity with the Lackan Bay system. Briefly, surface water drainage from the majority of the Wind Farm Site discharges directly to Lackan Bay via the Cloonalaghan River and several other 1st order streams. The northernmost section of the Grid Connection Route crosses the Carn River, which is a tributary of the Cloonlaghan. The crossing of the Carn will be by the Horizontal Directional Drilling (HDD) process.

The principal potential construction phase effects of the development relate to the release of suspended solids/nutrients, cementitious materials and hydrocarbons into the drainage network arising from all construction related site works including the access road network, turbine bases and associated hardstands, sub-station building, BESS, and spoil repository areas. Unmitigated, the construction or upgrading of watercourse crossings poses a high level of risk and potentially significant effects on receiving waters. In addition, the HDD process requires drilling fluid (consisting of polymers and bentonite) to assist with lubricating and mobilising drill arisings during the drilling process and to promote sealing and stabilising of the borehole – should such substances enter the watercourse there is a risk of adverse effects to aquatic biota (see details in **Chapter 9: section 9.4.2.12**).

There is a risk of sediment and nutrient release to local watercourses as a result of the clear-fell of conifers (approximately 31.84 ha) to facilitate the Project (see details in **Chapter 9: section 9.4.2.6**).

A Peat Stability Hazard and Landslide Risk Assessment (PSHLRA) for the site was carried out by Whiteford Geoservices Ltd. (see **Chapter 8: Soils and Geology,** inc. **Appendix 8.1)**. In the absence of mitigation, the hazard ranking for each turbine location (as well as substation and met mast locations) was Low for 11 locations and Negligible for nine locations (see **Appendix 8.1**, Table 20). In the absence of mitigation, the hazard ranking for each turbine new site access road was Low for six locations and Negligible for 12 locations (see **Appendix 8.1, Table 20A**).

Chapter 8, section **8.4.2.3.3 Peat Stability and Slope Failure**, notes the following:

> "Whilst the possibility of a peat slide is considered to be low, poorly managed construction activities (including traffic movement) can increase the risk. Any peat slide or slope failure which occurs will be localised due to the generally thin peat and the topography of the Wind Farm Site. However, given the proximity of several designated Sites, both to the north and south of the Wind Farm Site, any peat slide may result in some damage to nearby habitats. The effect of this is **significant, permanent** and **negative**."

In the unlikely event of a peat stability issue at the Wind Farm Site during the construction and/or operational and decommissioning phases of the project, there is risk of substantial amounts of peat entering local watercourses which have connectivity to Lackan Bay.

During the operational phase, the potential for silt-laden runoff is much reduced compared to the construction phase. In addition, all permanent drainage controls will be in place and the disturbance of ground and excavation works will be complete. However, disturbed peat surfaces since the construction works could generate suspended solids during wet periods. Some minor maintenance works may be completed, such as maintenance of site entrances, internal roads and hardstand areas. These works, while likely of a minor scale and at infrequent intervals, could result in the release of suspended solids to surface water and could result in an increase in the suspended sediment load, which could affect the water quality in local rivers and streams and ultimately enter the Lackan Bay system and the SAC.

During such maintenance works there is a small risk associated with the release of hydrocarbons from site vehicles. However, no refuelling works will be undertaken on site during the operational phase. Maintenance works will likely be contained within the Wind Farm Site boundaries and no maintenance works are likely to be required along the Grid Connection.

While a wind farm is not a recognised source of pollution, some chemicals and hydrocarbons will be stored on site. Without adequate storage facilities and proper handling of such substances, leakage to local watercourses via on-site drains is a possibility.

Upon decommissioning, the wind turbines and meteorological masts will be dismantled and all above ground components will be removed off-site for recycling. The potential effects associated with decommissioning will be similar to those associated with construction but of a much reduced magnitude,

due to the reduced scale of the proposed decommissioning works in comparison to construction phase works. Turbine and mast foundations will remain in situ and will be covered with earth and allowed to revegetate. Site roads will continue to be used as amenity pathways and will therefore not be removed. The underground cables will be cut and tied and the ducting will be left in place.

For the Lackan Bay and Kilcummin Head SAC, a review of the Conservation Objectives indicates that the relevant qualifying interests which conceivably could be affected by the input of pollutants to the system are as listed below. This is based on the given attribute and target for each habitat or species, as well as the distribution of the habitats and species within the designated sites (see Table 4 below – full details are contained within the NPWS Conservation Objectives Series for the SAC site).

Lackan Bay and Kilcummin Head SAC

1310: Salicornia and other annuals colonising mud and sand

Conservation Objective: To restore the favourable conservation condition of Salicornia and other annuals colonising mud and sand in Lackan Saltmarsh and Kilcummin Head SAC.

1330: Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

Conservation Objective: To maintain the favourable conservation condition of Atlantic salt meadows (Glauco-Puccinellietalia maritimae) in Lackan Saltmarsh and Kilcummin Head SAC.

1410: Mediterranean salt meadows (Juncetalia maritima)

Conservation Objective: To restore the favourable conservation condition of Mediterranean salt meadows (Juncetalia maritime) in Lackan Saltmarsh and Kilcummin Head SAC.

The two other qualifying interests (as listed in **Table 2**) are sand dune habitats, which would not be affected as they are above the high-water mark.

Table 4: Lackan Bay and Kilcummin Head SAC: Attributes and Targets associated with identified Habitats and Species potentially affected by water pollution.

Habitat / Species	Relevant Attribute	Relevant Target	Distribution
Salicornia and other annuals colonising mud and sand	Vegetation composition	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Very localised distribution but further areas may be present.
Atlantic salt meadows	Vegetation composition	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Wide distribution within the inner part of SAC.

Habitat / Species	Relevant Attribute	Relevant Target	Distribution
Mediterranean salt meadows (Juncetalia maritima)	Vegetation composition	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Wide distribution within the inner part of SAC.

In the absence of mitigation, the significance of an effect on the conservation objectives of the above listed Qualifying Interests of the SAC by contaminants, derived from activities associated with the Project, entering the estuarine system would depend on the type of pollutant, as well as the magnitude and duration of a pollution event. Aquatic invertebrate communities and aquatic macrophytes can be affected by sediment loading which reduces both the biotic diversity and the food resource available for bird populations through direct toxicity to invertebrates. Suspended solids often hold nutrients such as phosphorus that can result in eutrophication and reduced oxygen levels, which can affect aquatic communities.

As the conservation objectives of the European site could potentially be affected adversely, measures are required to avoid or reduce harmful effects of the Project, *i.e.* mitigation measures.

3.2 Potential for Effects on Killala Bay / Moy Estuary SAC

The Killala Bay / Moy Estuary SAC includes all of the inner sector of the bay and extends northwest to Rathfran Bay.

It is noted that the proposed Project does not have potential to have direct impacts, such as disturbance to habitats or species, to any parts of the Killala Bay / River Moy SAC.

As discussed in the assessment for AA Screening (**Section 2**), hydrological connectivity has been identified between the Grid Connection Route component of the Project and the SAC.

The majority of the Grid Connection Route is located in the Moy and Killala Bay surface water catchment. **Chapter 9: Hydrology and Hydrogeology** of the EIAR notes the following:

> "Within the Moy and Killala Bay surface water catchment, all surface watercourses along the Grid Connection flow to the west towards the Cloonaghmore River.
>
> There is a total of 2 no. crossings over EPA mapped watercourses (Cloonavarry (EPA Code: 33C43) and Rathnawoodraun (EPA Code: 34R35) streams) along the R314 near St. Patrick's college at Lackan Cross. Further to the south the Grid Connection crosses the Cloonaghmore River (EPA Code: 34C03) along the R314 at Palmerstown Bridge. A second crossing is proposed over a smaller watercourse, referred to by the EPA as the Rathbaun stream (EPA Code: 34R33).

Further south, a crossing is also proposed over a small stream (EPA Code: 34R25) in the townland of Rathowen East."

The above-mentioned watercourse crossings (no. 5) will require Horizontal Directional Drilling (HDD). Construction phase activities associated with water crossings by the HDD method in particular but also any excavation works associated with the grid connection route have the potential to cause adverse effects to receiving watercourses.

During the Directional Drilling process, there is a risk of indirect impacts on watercourses from sediment laden runoff during the launch pit and reception pit excavation works. There is also the unlikely risk of fracture blow out and contamination of the watercourse with drilling fluid.

Contaminants from the above works which enter local watercourses could be deposited within the Killala Bay/River Moy estuarine system. Ultimately the conservation objectives of the some of the Qualifying Interests of the Killala Bay/River Moy SAC could be affected adversely by the entry of pollutants derived from the construction of the grid connection.

Potential impacts on local watercourses due to the presence of the grid connection are not anticipated during the operational or decommissioning phases of the project.

For the SAC site, a review of the conservation objectives indicates that the relevant qualifying interests which conceivably could be affected by the input of pollutants to the estuarine system are as listed below. This is based on the given attribute and target for each habitat or species, as well as the distribution of the habitats and species within the designated sites (see Table 5 below – full details are contained within the NPWS Conservation Objectives Series for the SAC site).

Killala Bay/Moy Estuary SAC

1130: Estuaries

Conservation Objective: To maintain the favourable conservation condition of Estuaries in Killala Bay/Moy Estuary SAC.

1140: Mudflats and sandflats not covered by seawater at low tide

Conservation Objective: To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Killala Bay/Moy Estuary SAC.

1310: Salicornia and other annuals colonising mud and sand

Conservation Objective: To maintain the favourable conservation condition of of Salicornia and other annuals colonising mud and sand in Killala Bay/Moy Estuary SAC.

1330: Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

Conservation Objective: To maintain the favourable conservation condition of Atlantic salt meadows (Glauco-Puccinellietalia maritimae) in Killala Bay/Moy Estuary SAC.

1095: *Petromyzon marinus* (Sea Lamprey)

Conservation Objective: To maintain the favourable conservation condition of Sea Lamprey in Killala Bay/Moy Estuary SAC.

It is noted that none of the other qualifying habitats for the SAC (as listed in **Table 2)** would be affected by contaminants potentially carried to the estuarine waters as a result of the Project as these are largely located above the high tide mark. Also, *Vertigo angustior* is confined to one location of marsh habitat near Killanly on the eastern side of the River Moy Estuary, with no potential for impacts as a result of the proposed project. The possible input of contaminants to the Killala Bay system would not affect the breeding or haul-out sites of *Phoca vitulina*.

Table 5: Killala Bay/Moy Estuary SAC: Attributes and Targets associated with identified Habitats and Species potentially affected by water pollution.

Habitat / Species	Relevant Attribute	Relevant Target	Distribution
Estuaries	Community distribution	Conserve the following community types in a natural condition: Muddy sand to fine sand dominated by Hydrobia ulvae, Pygospio elegans and Tubificoides benedii community complex; Estuarine muddy sand dominated by Hediste diversicolor and Heterochaeta costata community complex; and Fine sand dominated by Nephtys cirrose community complex.	Entire estuarine component of site
Mudflats and sandflats not covered by seawater at low tide	Community distribution	Conserve the following community types in a natural condition: Muddy sand to fine sand dominated by Hydrobia ulvae, Pygospio elegans and Tubificoides benedii community complex; Estuarine muddy sand dominated by Hediste diversicolor and Heterochaeta costata community complex; and Fine sand dominated by Nephtys cirrose community complex.	Entire intertidal estuarine component of site.
Salicornia and other annuals colonising mud and sand	Vegetation composition	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Localised distribution including Bartragh Island and Ross inlet. Further areas may be present.

Habitat / Species	Relevant Attribute	Relevant Target	Distribution
Atlantic salt meadows	Vegetation composition	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Wide distribution within the SAC, especially Bartragh Island and the Ross inlet.
Sea Lamprey	Juvenile density in fine sediment.	Juvenile density at least 1/m^2.	Estuary

In the absence of mitigation, the significance of an effect on the conservation objectives of the above listed Qualifying Interests of the SAC and by contaminants, derived from activities associated with the Project, entering the estuarine system would depend on the type of pollutant, as well as the magnitude and duration of a pollution event. Aquatic invertebrate communities and aquatic macrophytes can be affected by sediment loading which reduces both the biotic diversity and the food resource available for bird populations through direct toxicity to invertebrates. Suspended solids often hold nutrients such as phosphorus that can result in eutrophication and reduced oxygen levels, which can affect aquatic communities.

As the conservation objectives of the European site could potentially be affected adversely, measures are required to avoid or reduce harmful effects of the Project, *i.e.* mitigation measures.

3.3 Potential for Effects on Killala Bay / Moy Estuary SPA

The Killala Bay / Moy Estuary SPA includes all of the inner sector of the bay, the Rathfran Bay inlet as far upstream as Palmerstown Bridge and the estuarine component of Lackan Bay.

The closest proximity of the project area to the SPA is at Palmerstown Bridge (along Grid Connection route) though the proposed Project does not have potential to have direct impacts, such as disturbance to habitats or associated species, to any parts of the Killala Bay / River Moy SPA.

The Wind Farm Site is just over 1 km from the Lackan Bay and Rathfarn Bay inlet components of the SPA.

As outlined in **section 2.4.6** (and summarised in Table 2) the improved and semi-improved grassland and wet grassland habitats within the wind farm site potentially provide suitable feeding habitat for inland feeding wader species (golden plover & curlew) associated with the SPA, as do the lands between the wind farm and Lackan Bay (distance of c. 1km between the two areas). However, the baseline ornithological vantage point and shoreline surveys carried out between 2021 and 2023 (see **EIAR Chapter 7; Ornithology, sections 7.3.5 & 7.3.6**) did not record usage of any of the fields in the wind

farm area by these wader species or any flights inland from the shoreline towards the wind farm area. Also, while Lackan Bay is an integral part of the SPA, the shoreline surveys indicated the bay is used by relatively low numbers of waterbirds (supported by I-WeBS data - see **EIAR Chapter 7, section 7.3.6**). It is concluded that the proposed Project will not affect any grassland fields used by inland feeding or roosting wader species associated with the SPA.

The Wind Farm Site is hydrologically connected with the Lackan Bay component of the SPA via the Cloonalaghan River and several other small watercourses which drain the east of the site.

The Grid Connection Route is hydrologically linked with the SPA via the Cloonaghmore River, which enters the Rathfarn Bay inlet at Palmerstown Bridge, immediately upstream of the SPA.

As discussed for the Lackan Bay and Kilcummin Head SAC (**section 3.1** above) and the Killala Bay/Moy Estuary SAC (**section 3.2** above), potential wind farm construction phase, and to a lesser extent operational and decommissioning phases, effects relate to the release of suspended solids/nutrients, cementitious materials and hydrocarbons into the drainage network arising from the works, including the required clear felling of conifer plantation.

Construction phase activities associated with water crossings by the HDD method, and in particular the crossing of the Cloonaghmore River at Palmerstown Bridge (which adjoins the SPA), have the potential to cause adverse effects to receiving watercourses.

Ultimately the relevant Special Conservation Interests (SCIs) of the Killala Bay/ River Moy SPA could be affected adversely by the entry of pollutants derived from the Wind Farm Site during the construction, operational and decommissioning phases.

For the SPA site, a review of the conservation objectives indicates that the relevant SCIs which conceivably could be affected by the input of pollutants to the estuarine system are as listed below. This is based on the given attribute and target for each habitat or species, as well as the distribution of the habitats and species within the designated sites (see **Table 6** below – full details are contained within the NPWS Conservation Objectives Series for the SPA site).

Killala Bay / Moy Estuary SPA

A137: Ringed Plover *Charadrius hiaticula*
A140: Golden Plover *Pluvialis apricaria*
A141: Grey Plover *Pluvialis squatarola*
A144: Sanderling *Calidris alba*
A149: Dunlin *Calidris alpina*
A157: Bar-tailed Godwit *Limosa lapponica*
A160: Curlew *Numenius arquata*

A162: Redshank *Tringa totanus*

The Conservation Objective for each of the above listed species is: To maintain the favourable conservation condition of the species in Killala Bay/Moy Estuary SPA.

It is noted that the possible input of contaminants to the estuary as a result of the proposed project would not affect the Habitat Area (single Attribute) of the qualifying interest Wetlands [A999].

Table 6: Killala Bay/Moy Estuary SPA: Attributes and Targets associated with identified Habitats and Species potentially affected by water pollution.

Habitat / Species	Relevant Attribute	Relevant Target	Distribution
Ringed Plover **Golden Plover** **Grey Plover** **Sanderling** **Dunlin** **Bar-tailed Godwit** **Curlew** **Redshank**	Population trend	Long term population trend stable or increasing	Entire estuarine component of site
Ringed Plover **Golden Plover** **Grey Plover** **Sanderling** **Dunlin** **Bar-tailed Godwit** **Curlew** **Redshank**	Distribution	There should be no significant decrease in the range, timing or intensity of use of areas by the listed species other than that occurring from natural patterns of variation.	Entire estuarine component of site
Wetlands	Habitat area	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 3204 ha, other than that occurring from natural patterns of variation	Entire site

In the absence of mitigation, the significance of an effect on the conservation objectives of the above listed qualifying interests of the SPA by contaminants, derived from activities associated with the Project, entering the estuarine system would depend on the type of pollutant, as well as the magnitude and duration of a pollution event. Aquatic invertebrate communities and aquatic macrophytes can be affected by sediment loading which reduces both the biotic diversity and the food resource available for

bird populations through direct toxicity to invertebrates. Suspended solids often hold nutrients such as phosphorus that can result in eutrophication and reduced oxygen levels, which can affect aquatic communities.

As the conservation objectives of the identified European site could potentially be affected adversely, measures are required to avoid or reduce harmful effects of the Project, *i.e.* mitigation measures.

3.4 Mitigation Measures During Construction Phase

The objective of the mitigation measures is to avoid, minimise and control contaminated run-off entering drains and local watercourses and potentially the identified European sites which are hydrologically linked to the project site. The achievement of this objective is outlined in the following sections, with details in the accompanying EIAR (**Chapter 6: Biodiversity & Chapter 9: Hydrology and Hydrogeology**).

A Construction and Environmental Management Plan (CEMP) is appended to this NIS (**Appendix 1)**. The CEMP provides details on all mitigation and monitoring measures to be actioned prior to construction, and during the construction, operation and decommissioning phases. The CEMP will be subject to ongoing review through regular environmental auditing and site inspections. This will confirm the efficacy and implementation of all mitigation measures and commitments identified in the application documentation. This document will be a key construction contract document, which will ensure that all mitigation measures, which are considered necessary to protect biodiversity and the environment, and ultimately the interests of European sites with connectivity to the Project area, are implemented.

3.4.1 Maintenance of Water Quality

All of the described measures are focused on preventing contaminated water from entering local watercourses which are linked to European sites. When in force, the mitigation measures will be monitored to ensure their efficacy. Should a failure in the mitigation occur, immediate action will be taken in accordance with the site-specific Emergency Plan (**CEMP – Management Plan** 1).

3.4.1.1 Mitigation by Avoidance

The greatest risk of adverse impacts on the aquatic environment will occur during the construction phase of the development. Key to minimising this risk has been the siting of all turbine locations and other key infrastructure at a minimum set-back from watercourses (i.e. 50 m to main watercourses and 10 m to main drains). Where works are proposed within the buffer zone, such as at watercourse crossings, additional mitigation measures will be implemented, namely the placement of double row silt fences immediately down-gradient of the construction area.

3.4.1.2 Mitigation by Design

Drainage measures have been developed to protect all receiving waters from potential impacts during the construction of the Development in the catchments of the Wind Farm Site. These measures are aimed at

preventing sediments or other pollutants from entering watercourses through the containment and treatment on-site of all surface water run-off from areas of works. The appointed contractor will have appropriately qualified environmental personnel to ensure compliance during the construction stage with all mitigation measures, planning conditions and legislative requirements related to the maintenance of water quality. An Ecological Clerk of Works (ECoW) will be appointed by the contractor as part of the environmental team for the duration of the project.

As already noted, the mitigation measures have been incorporated into a Construction and Environmental Management Plant (CEMP) for the development which includes Construction Method Statements for key works. The CEMP has been developed using the Institute of Environmental Management and Assessment (IEMA) Practitioner "*Environmental Management Plans*", Best Practice Series, Volume 12, December 2008. The CEMP includes a Water Quality Monitoring Plan (Management Plan 2) and a Surface Water Management Plan (Management Plan 3). The Management Plans will require mandatory adherence by all parties involved in the construction of the Development (including sub-contractors) in order to protect water quality within the study area. The development of the mitigation measures and all method statements for watercourse crossings follows all relevant guidance and current best practice.

The use of Sustainable Drainage Systems (SuDS) on site will minimise risk to watercourses from sedimentation during the construction and operational phases of the proposed development.

Surface water management measures will be put in place concurrently during the development of the various infrastructure. The measures entail the following key elements which are described in detail within the Surface Water Management Plan of the CEMP (Management Plan 3).

- Open Constructed drains for development run-off collection and treatment;
- Collection Drains for upslope "clean" water collection and dispersion;
- Filtration Check Dams to reduce velocities along sections of road which run perpendicular to contours;
- Settlement Ponds, Settlement Lagoons and Buffered Outfalls to control and store development runoff to encourage settlement prior to discharge at Greenfield runoff rates.

There will be no direct site run-off to watercourses during the construction phase with all outflows from drainage via settlement ponds from which treated surface water is released by diffuse overland flow at appropriate locations. To reduce the amount of silt laden water to be treated, clean water drains will be created upstream of the works area to divert water away from construction areas, thereby lessening the volume of water to be treated onsite.

De-watering of excavations, where required, will be through filtered 'silt socks' / dewatering bags or a '*Siltbuster'* or similar system, prior to discharge. Excavations will be kept to the absolute minimum for the specific task and undertaken on a 'just in time' basis to minimise the extent of silty water generated and requiring treatment prior to discharge.

A comprehensive vegetation restoration programme will be implemented on disturbed peat surfaces to minimise the risk of run-off from bare peat surfaces post-construction (details in EIAR **Chapter 6, Section 6.5.2.2**). This will involve the replacement of saved sods of the surface bog vegetation or piles of surface peat (containing rhizomes, seeds etc.) which will have been removed at the commencement of works and stored. Re-seeding of bare surfaces with a suitable seed mix (as recommended by the project ecologist) may supplement the above in some places.

3.4.1.3 Mitigation by Reduction

Implementation of the following specific measures will ensure the protection of water quality in local watercourses and will ensure that contaminated water does not reach the identified European sites which have hydrological connectivity with the proposed development area.

This is a summary of the principal required mitigation measures, with full details being presented in the EIAR (**Chapter 9: Hydrogeology and Hydrology**) and the Construction Environmental Management Plan.

- Sediment traps or settlement ponds will be provided at all outfalls during construction. All construction site run-off will be channelled through a stilling process to allow suspended solids to settle out and through a spill-containment facility prior to discharge.
- Daily monitoring of all sediment traps and settlement ponds will be undertaken by the Contractor and supervised by the Environmental Manager to ensure satisfactory operation and/or maintenance requirements.
- The storage on site of oils, hydraulic fluids, etc. will be undertaken in accordance with current best practice for oil storage (Enterprise Ireland, BPGCS005).
- The pouring of concrete, sealing of joints, application of water-proofing paint or protective systems, curing agents, etc. will be completed in the dry to avoid pollution of the freshwater environment.
- Vehicles will be refuelled off-site where possible. For vehicles that require refuelling on-site, fuels will be stored in the temporary construction compound and bunded to at least 110% of the storage capacity of fuels to be stored. Refuelling will take place via a mobile double skinned fuel bowser. The bowser will be a double axle refuelling trailer which will be towed to the refuelling locations by a 4x4 vehicle. The 4x4 will carry, a drip tray, spill kit and absorbent mats in case of any accidental spillages. Only designated competent personnel will refuel plant and machinery on the Site.
- All machinery operating on water course crossings will be steam-cleaned in advance of works and routinely checked to ensure no leakage of oils or lubricants occurs. All fuelling of machinery will be undertaken on dry land.
- Instream works shall be undertaken during the period 1st July to 30th September as required by Inland Fisheries Ireland Guidance (2016) to avoid accidental damage or siltation of spawning beds, and unless otherwise specified by IFI during consultations in advance of works.

- Culverting works will be undertaken in dry conditions and in low flow conditions on drains that do not run dry. This will be within the summer period during periods of dry stable weather.
- During the culvert installation and associated construction work, double silt fences shall be emplaced immediately downgradient and downstream of the construction area for the duration of the construction phase.
- There will be no concrete batching on the Wind Farm Site. Rather, it will be transported to the Site as it is required. A dedicated, bunded area will be created to cater for concrete wash-out. This will be for the wash-out of the chutes only after the pour. Concrete trucks will then exit the Site and return to the supply plant to wash out the mixer itself. The main concrete pours at the turbine locations will be planned in advance and will adhere to the following:
    1. Avoiding large concrete pours, for Turbine Foundations for example, on days when heavy or prolonged rainfall is forecast, i.e., 25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or rainfall depth greater than monthly average in seven days (prolonged heavy rainfall over a week). Concrete pouring will be avoided during a period in which a Met Éireann Status Red weather event has been implemented.
    2. Ensuring that all concrete pour areas are dewatered prior to pouring concrete and while the concrete is curing.
    3. Making covers available so that areas can be covered if heavy rain arrives during the curing process which will prevent runoff of concrete which has a high pH.
- In the unlikely event of any incidents of pollution to watercourses, immediate steps will be undertaken to resolve the cause of the pollution and mitigate against the impact of pollution, following the advice set out in, the site-specific Emergency Response Plan (**CEMP- Management Plan 1**).

3.4.2 Ground and Peat Stability

Careful design of the wind farm has reduced the amount of construction required in areas of deep peat, high slopes and other areas of potential ground instability. Various good practice procedures to reduce the Hazard Ranking associated with peat instability will be followed (see Appendix 8.1: section 1.3.2 Prevention of Peat Landslide and Bog Burst). Additionally, the following specific mitigation measures will be applied as recommended in the PLHRA (included in EIAR **Appendix 8.1**):

- Avoidance of floating roads in areas where ground slopes exceed 5 degrees to the horizontal.
- Avoidance of stockpiling on the peat
- Avoidance of peat berms in areas of potential instability (highlighted by elevated hazard rankings), where ground slopes exceed 5 degrees to the horizontal
- Additional engineered drainage in areas of construction

- Avoidance of drains discharging onto areas of weak or deep peat or areas of elevated hazard ranking
- Avoidance of blasting within 1 km of areas highlighted by elevated hazard rankings

As noted in the PLHRA, vehicular access to any areas of deep peat (>1.0 m) during construction will be restricted to low ground pressure vehicles, with all construction vehicles travelling on existing access tracks whenever possible.

Best practice will be applied during construction which will minimise the risk of ground instability. All works will be managed and carried out in accordance with the Construction Environmental Management Plan (CEMP), which will be updated by the civil engineering contractor and agreed prior to any site works commencing.

A Geotechnical Clerk of Works will be employed during the construction phase in order to continuously monitor areas of peat, in particular areas of deep peat and the areas of potential instability highlighted in the PLHRA. Ongoing physical stability checks and calculations will be undertaken in order to verify that safety standards are being met.

The CEMP includes an emergency response to be applied in the event of a landslide or ground instability. In particular, catch fences and other physical barriers (i.e. concrete blocks) will be on-site and available in sufficient quantities to be used in the event of ground instability. A plan will be made to prevent or divert any landslide away from the European sites associated with Killala Bay.

On-site training and toolbox talks will ensure any response to any potential incident is escalated quickly and efficiently.

Following best practice guidelines (as outlined by The Scottish Executive & Halcrow Group Ltd in “Peat Landslide Hazard and Risk Assessment - Best Practice Guide for Proposed Electricity Generation Developments”, April 2017), peat landslide risk analysis has indicated a NEGLIGIBLE HAZARD of instability in relation to the proposed turbine locations and proposed access tracks, should all mitigation measures and recommendations be adhered to, and as such the project should have no adverse effect on the soils, geology or surface water aspects in the vicinity of the proposed Tirawley Wind Farm project.

3.4.3 Horizontal Directional Drilling

As noted in section 3.2 above, during the HDD processes there is a risk of leakages of drilling fluids which can have toxic effects on aquatic biota (depending on the type of lubricant used).

It is noted that for this Project, ‘Clearbore’ or a similar environmentally friendly drilling fluid product will be used during the HDD process. Clearbore is produced using free flowing polymers and is designed to instantly break down and become chemically destroyed in the presence of small quantities of calcium hypochlorite. At normal usage, the product is not toxic to aquatic organisms and is biodegradable.

Full details for mitigation during the HDD process are given in **Chapter 9: section 9.5.1.12**.

3.4.4 Clear Felling

As the proposed Project requires a substantial amount of clear felling (31.84 ha), all felling operations will conform to current best practice Forest Service regulations, policies and strategic guidance documents as well as Coillte and DAFM guidance documents to ensure that felling, planting and other forestry operations result in minimal potential negative effects to the receiving environment.

Strict mitigation measures will be implemented which will reduce the risk of entrainment of suspended solids and nutrient release in surface watercourses.

Full details for mitigation during the felling operations are given in **Chapter 9: section 9.5.1.7** of EIAR and in the **Forestry Management Plan, Appendix 14.1** of EIAR.

3.5 Measures During Operational Phase

3.5.1 Surface Water Drainage

As part of the proposed wind farm drainage design, runoff from the proposed infrastructure will be collected locally in new silt traps, settlement ponds and vegetated buffer areas prior to release into the existing site drainage network. The new proposed drainage measures will then create significant additional attenuation to what is already present. The operational phase drainage system will be installed and constructed in conjunction with the existing site drainage network and will include the following:

- Interceptor drains will be installed up-gradient of all proposed infrastructure to collect clean surface runoff, in order to minimise the amount of runoff reaching areas where suspended sediment could become entrained. It will then be directed to areas where it can be re-distributed into downstream field drains.
- Collector drains will be used to gather runoff from access roads and turbine hardstanding areas of the site likely to have entrained suspended sediment, and channel it to new local settlement ponds for sediment settling.
- On sections of access road transverse drains (‘grips’) will be constructed where appropriate in the surface layer of the road to divert any runoff off the road into swales/roadside drains.
- Check dams will be used along sections of access road drains to intercept silts at source. Check dams will be constructed from a 4/40mm non-friable crushed rock.
- Settlement ponds, emplaced downstream of access road sections and at turbine locations, will buffer volumes of runoff discharging from the drainage system during periods of high rainfall, by retaining water until the storm hydrograph has receded, thus reducing the hydraulic loading to existing drains.
- Settlement ponds will be designed in consideration of the greenfield runoff rate.
- All surface water runoff from the development will have to pass through the proposed settlement ponds prior to release into the existing site drainage network.

3.5.2 Waste Water Discharges

Wastewater/sewerage from the staff welfare facilities at the Wind Farm Site will be collected and held in a sealed storage holding tank, fitted with a high-level alarm. The high-level alarm is a device installed in the storage tank that is capable of sounding an alarm during a filling operation when the liquid level nears the top of the tank. Chemicals are likely to be used to reduce odours.

All wastewaters will be emptied periodically and taken off-site by a licensed waste collector to the local wastewater sanitation plant for treatment. There will be no on-site treatment of wastewater. A wastewater or sewerage leakage is not anticipated in a properly managed Site.

Subject to the above, the nature and quality of the proposed discharge of trade effluent will meet all surface water Environmental Quality Standards (EQS) and is therefore considered not to pose a risk to water quality within the receiving watercourse.

3.5.3 Mitigation for Chemicals Stored on Site

Health and Safety protocols for the safe storage and handling of chemicals at the Wind Farm Site are outlined in **Chapter 16: Major Accidents & Natural Disasters** and the attached **CEMP**.

While storage of chemicals on the Wind Farm Site will be limited to relatively minor quantities of hazardous materials used for maintenance purposes, these will be housed in the site compound within a secure bunded COSSH store to ensure containment should a spillage or leakage occur and thus prevent contaminants from reaching local drains and watercourses.

3.5.4 Mitigation for Major Accidents and Disasters

The implementation of mitigation through design, avoidance principles, choice of best alternatives for location of works, pollution control measures, surface water drainage measures and other preventative measures have been incorporated into the project design in order to minimise potential significant adverse effects on major accidents and disasters at the Wind Farm Site.

The main risk of MADs at peatland sites is related to peat stability. The peat stability and landslide risk assessment which has been completed for the Wind Farm Site (see Appendix 8.1) concludes that with the implementation of the proposed mitigation measures that the risk of a peat failure at the Wind Farm Site is Negligible / None.

Flooding can also result in downstream MADs. However, the increased flood risk associated with the Development is Negligible / None (as detailed in **Chapter 9: Hydrology and Hydrogeology**).

3.5.5 Ground and Peat Stability

While the risk of stability issues arising during the operational phase of the Wind Farm Site is considered Negligible / None, the site will nevertheless be inspected regularly for potential stability issues, with

focus on slopes, soil/peat deposition areas and new roads in the post-construction phase of the proposed Project.

3.6 Mitigation Measures During Decommissioning Phase

Decommissioning of the Project will be scheduled to take place after the proposed 35 year lifespan of the project. A preliminary Decommissioning Plan is contained within the CEMP (see **Appendix 1**).

Potential impacts on European sites from the decommissioning phase of the Project are likely to be broadly similar to construction phase impacts, in terms of potential surface water quality impacts from ground disturbance, refuelling and the storage of potentially hazardous materials onsite. The implementation of all mitigation measures detailed for the construction phase will be adopted as relevant during the decommissioning phase to ensure all such impacts are avoided.

When the final Decommissioning Plan is prepared prior to decommissioning and presented as a standalone document, all drainage management measures, which will include maintenance of the operational drainage measures, will be included in that document, as required.

However, it should be noted that by the time decommissioning is undertaken after the planned 35 year lifespan of the Project, the areas within the Wind Farm Site will have re-vegetated resulting in a resumption of the natural drainage management that will have existed prior to any construction. It is not anticipated that the decommissioning phase will interrupt this restored drainage regime in any way with the works proposed. As a minimum measure, areas where freshly placed soil material as part of turbine foundation reinstatement work will be surrounded by silt fencing if deemed necessary until the area has naturally revegetated.

Restoration of the Wind Farm Site following decommissioning of infrastructure will require the prior establishment of the new baseline conditions at the site which will have developed over the intervening 35 years life of the project. These studies will inform any modification or additional sensitivities that may need to be factored in restoration and site-specific measures.

The distribution of designated European sites, as well as their Qualifying Interests or Special Conservation Interests, at the time of decommissioning will be reviewed (as this may differ from the situation in 2025).

3.7 Analysis of "In-combination" Effects

The Habitats Directive requires competent authorities to make an appropriate assessment of any plan or project which is likely to have a significant effect alone or in-combination with other plans and projects. Consideration is given in the following for the potential for in-combination effects between the Tirawley Wind Farm Project and other projects and landuse activities within the study area.

Other Wind Farm Projects

Chapter 2, Section 2.3.3 of the EIAR identified a total of 14 no. operational, consented and proposed wind farms within a 20 km radius of the site of the Proposed Wind Farm Development (see **Table 5** & Figure **6**). In addition, there are 2 no. single domestic turbines at distances of 1.1 km (northwest of wind turbine AT15) and 4.1 km southeast of the Proposed Development. The nearest operational wind farms are the Killala Community Wind Farm (5.8 km) and Killala Community Wind Farm (Phase 1) (6.0 km). The Glenora (awaiting a planning decision) and Keerglen (awaiting a planning decision) projects are located at distances of 6.9 and 6.5 km respectively of the Tirawley Site. All the other wind farm projects are at distances greater than 10 km from the Tirawley Site, with the majority located within afforested and bog habitats to the southwest.

Chapter 9 (section 9.5.6.4) of the EIAR identifies the surface water catchment and sub-catchment within which these wind farms are located. The Tirawley Wind Farm Site is located in the Glencullin_SC_010 sub-catchment. Two of the wind farms (Keerglen and Glenora) are located in the Glencullin sub-catchment. However, both of these wind farms are located to the east of the Ballinglen River which acts as a hydrological barrier between the Development and these other proposed developments. Furthermore, there is 1 no. domestic wind turbine located ~1 km north of the Wind Farm Site and within the Glencullin sub-catchment. All other wind farms are located in separate catchments and have no potential for cumulative effects with the Proposed Development.

While the Tirawley Wind Farm will add a further 16 turbines to the total of 201 turbines in the 20 km review zone (with the Bellacorick Wind Farm to be decommissioned), with the location of the majority of turbines in separate catchments and at distances of more than 10 km, it is considered that the Tirawley project will not contribute to a significant effect on European sites when considered in-combination with other wind energy projects.

Other Developments

An inventory of other permitted or proposed projects (awaiting decisions) bigger than a one-off house) within a 10 km distance of the Proposed Development Site has been compiled (see EIAR **Chapter 2, Table 2.2)**. There projects are relevant to the time period between 2018 and 2023. Most of the projects are agricultural related developments or the continued use and operation of quarries and for these no potential pathways to European sites are identified. The principal larger scale projects which have received planning permission are:

- Planning Ref. 19205 granted on 24/10/2019 for an ESB substation with switch room building and the erection and operation of an asphalt mixing plant, all within an existing quarry complex.
- Planning Ref. 18358 granted on 20/12/2018 for a battery storage facility on lands within Tawnaghmore generation station.
- Planning Ref. 2012 granted on 29/06/2020 for an energy storage facility on the Killala community wind farm site.
- Planning Ref. 2360134 (granted) for a nominal 50-megawatt electricity generating station on a 19 ha site at Killala.

- Planning Ref. 2360266 (granted on 27/05/25) for a Hydrogen Plant and an Energy Centre at the existing Asahi Plant, Killala.

A series of the projects granted or under review are associated with the industrial facility at Killala, which is a distance of approximately 6 km from the site for the proposed Tirawley wind farm. All of these projects have been, or are, subject to rigorous evaluation of effects on the environment and especially potential for effects on European sites.

For these reasons, the Proposed Project will not contribute to any significant cumulative effect when considered in combination with other developments within the study area.

Commercial Forestry

Commercial forest operations have the potential for the release of sediment and nutrients to the aquatic environment, and impacts from acidification. This can ultimately have negative effect on the interests of European sites which receive the inflowing waters.

Chapter 9 (section 9.5.6.1) of the EIAR notes that the Wind Farm Site is situated in a rural catchment which drains to the Heathfield and Cloonalaghan Rivers and the Atlantic Ocean. According to Corine land cover mapping (www.epa.ie) (2018) the cumulative study area contains several blocks of coniferous forestry. Due to the close proximity of these forested areas to the Proposed Development and given that they drain to the same watercourses as the Proposed Development, the potential cumulative effects on downstream water quality, and ultimately the Lackan Bay and Kilcummin Head SAC and the Killala Bay/Moy Estuary SPA, need to be assessed. However, the mitigation measures as discussed within the present report and detailed in **Chapter 9** of the EIAR (**Section 9.5.1**, **Section 9.5.2** & **Section 9.5.3)** for the construction, operation and decommissioning phases of the Proposed Development will ensure the protection of downstream surface water quality and in turn associated European sites.

For these reasons, it is considered that the proposed Project will not contribute to any significant cumulative effect on European sites when considered in combination with other commercial forestry activities within the catchment.

Agriculture

Agriculture is the largest landuse activity within the study area. Agricultural operations have the potential for the release of sediment and nutrients to the aquatic environment, which can ultimately have negative effect on the interests of European sites which receive the inflowing waters.

With the strict mitigation measures, as discussed within the present report and in Chapter 9 of the EIAR, which will be implemented during the construction, operational and decommissioning phases of the Proposed Development to ensure the protection of local watercourses, the Proposed Development will

not contribute to any significant cumulative effect on European sites when considered in combination with agricultural activities within the catchment.

Table 5: Wind Farms within c. 20 km of the Site of the Proposed Development at Tirawley.

No.	Name	Planning Ref.	No. WTG	Direction from the Development	Approx Distance to the Development (km)	Planning Status
1	Killala Community Wind Farm (Phase 1)	17169	5	Southeast	6.0	Operational
2	Killala Community Wind Farm (Phase 2)	19260	1	Southeast	5.2	Operational
3	Lackan Wind Farm	22401	3	East	13.6	Operational
4	Oweninny (Phase 1)	ABP Ref. 16.PA0029	29	Southwest	13.9	Operational
5	Oweninny (Phase 2)	ABP Ref. 16.PA0029	31	South-west	19.6	Operational
6	Oweninny (Phase 3)	ABP-309375-21	18	Southwest	14.3	Consented
7	Dooleeg	20467	1	Southwest	19	Consented
8	Bellacorrick	901077	21	Southwest	16.8	Decommissioning*
9	Sheskin	Reg. Ref. 15/825, 19/457	8	Southwest	18.0	Operational
10	Sheskin South	ABP-310529-21	18	Southwest	19.9	Consented
11	Glenora	ABP-310528-21	22	West	6.9	Awaiting Decision
12	Knockboha (Domestic)	06343	1	North	1.1	Operational
13	Leadymore (Domestic)	1769	1	Southeast	4.1	Operational
14	Gortnahurra	N/A	16	Southwest	11.7	Preplanning

15	Keerglen Wind Farm	2460537	8	Southwest	6.5	Awaiting Decision
16	Keenagh, Owenboy & Trista Windfarm	N/A	20	Southwest	22.3	Preplanning

* = Decommissioning of Bellacorick Windfarm will take place alongside the construction of the consented Oweninny Phase (3)

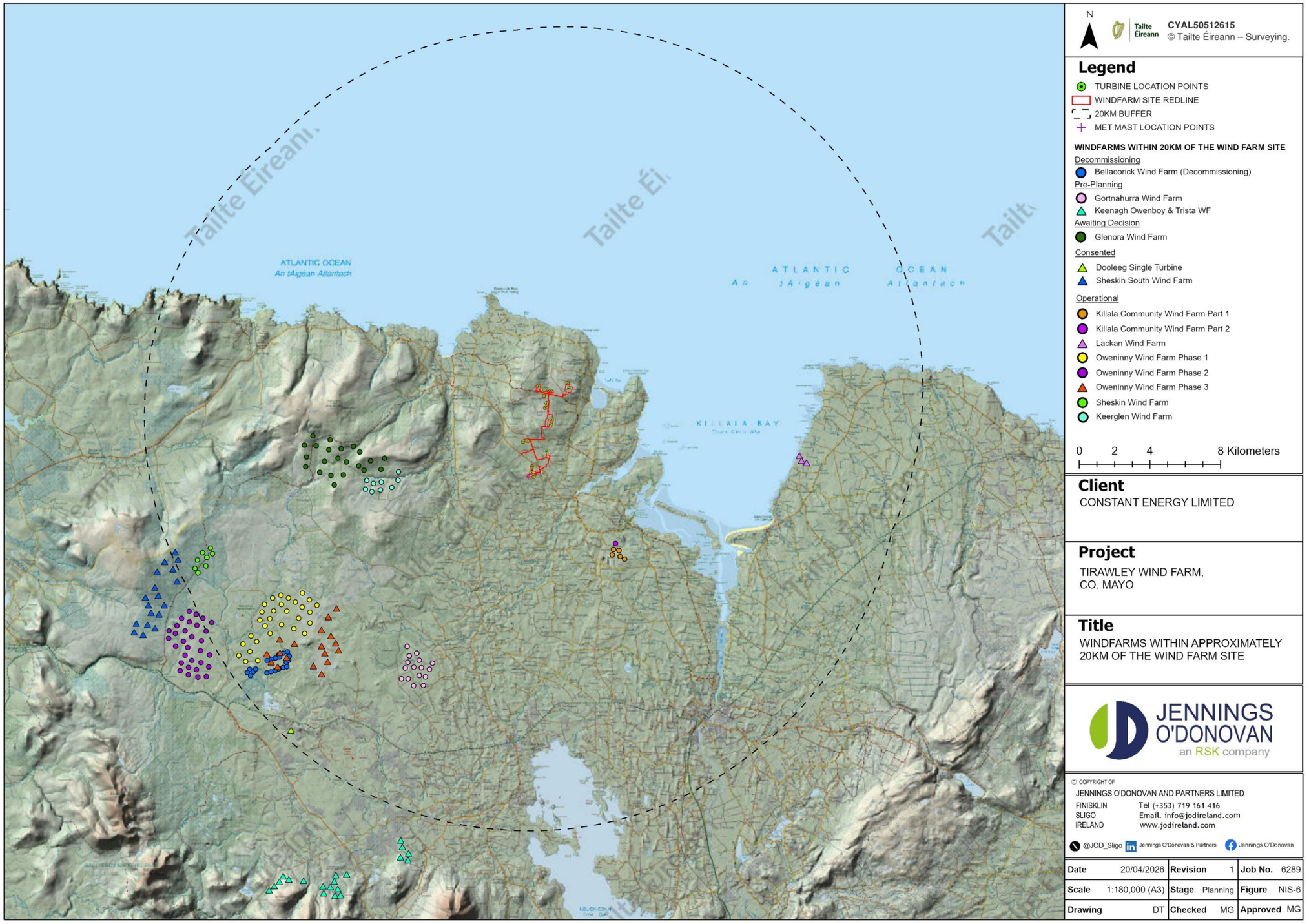

Figure 6: Distribution of wind farm sites within c.20 km distance of the proposed Tirawley Wind Farm.

4 CONCLUSION

This Natura Impact Statement has assessed the potential effects of the proposed Tirawley Wind Farm Project in Co. Mayo on the integrity of identified relevant European sites.

For the reasons set out in detail in this NIS, in the light of the best scientific knowledge in the field, all aspects of the proposed Project, by itself or in combination with other plans or projects, which may affect the relevant European Sites have been considered.

The NIS contains information that the Commission, as competent authority, may consider in making its own complete, precise and definitive findings and conclusions as to the effects of the proposed Project. It is respectfully submitted that the information contained in this NIS is such that the competent authority will be capable of determining that all reasonable scientific doubt has been removed as to any adverse effects of the proposed Project on the integrity of the relevant European sites.

In conclusion, on the basis of the assessment set out in this NIS, it is respectfully submitted that the competent authority is able to determine that no reasonable scientific doubt remains that the proposed Project will not adversely affect the integrity of any European sites, in view of the conservation objectives of those sites.

5 REFERENCES

Crowe, O. (2005) *Ireland's Wetlands and their Waterbirds: Status and Distribution.* Birdwatch Ireland, Wicklow.

Daly, D. (2004), *Groundwater at Risk in Ireland - Putting Geoscientific Information and Maps at the Core of Land Use and Environmental Decision-making,* John Jackson Memorial Lecture, Royal Dublin Society, November 2004.

Department of Environment, Heritage and Local Government (2010 revision). *Appropriate Assessment of Plans and Projects in Ireland*. Guidance for Planning Authorities.

Department of Housing, Local Government and Heritage (2026). *Protected sites - listings and maps.* See www.npws.ie

European Commission (2013). *Interpretation Manual of European Union Habitats*. Version Eur 28.

Environment Agency (2001). *Guide to Good Practice for the Development of Conceptual Models and the Selection and Application of Mathematical Models of Contaminant Transport Processes in the Subsurface.* Environment Agency National Groundwater and Contaminated Land Centre Report, Solihull, UK.

European Commission Environment DG (2002). *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*.

European Commission (2018). *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC.* Guidance issued by European Commission (21st November 2018).

European Commission (2021) *Assessment of Plans and Projects in relation to Natura 2000 sites – (Revised) Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC.* Guidance issued by European Commission (28.9.2021 C(2021) 6913 final).

European Commission (2021) *ANNEX to the Commission notice to the Assessment of Plans and Projects in relation to Natura 2000 sites – (Revised) Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC: Examples of Practices, Case Studies, Methods and National Guidance.* Issued by European Commission (28.9.2021 C(2021) 6913 final).

Fox, A.D., Norriss, D.W>, Stroud, D.A. & Wilson, H.J. (1994) Greenland White-fronted Geese in Ireland and Britain 1982/83-1993/94. Greenland White-fronted Goose Study Research Report No 8. Compiled by the Greenland White-fronted Goose Study and the National Parks and Wildlife Service, Dublin.

Hunt, J., Heffernan, M.L., & Kelly, S.B.A. (2022) The Common Scoter Melanitta nigra in Ireland in 2020: Results from pre-breeding and brood survey. *Irish Birds* 44: 1-10.

Office of the Planning Regulator (2021) *OPR Practice Note PN01 Appropriate Assessment Screening for Development Management.* March 2021.

Royal Society (1992) *Risk: Analysis, Perception and Management*. The Royal Society, London (ISBN 0-85403-467-6).

APPENDIX 1:

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN