Appendix 1-4- Scoping Report

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BUILT ON KNOWLEDGE

Bord na Móna

Derryadd Wind Farm

Environmental Impact Assessment: Revised Scoping Report

EIA Scoping Report

Derryadd Wind Farm

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1.0 INTRODUCTION

1.1 The Applicant

Bord na Móna Powergen Ltd. intends to apply for planning permission to construct a wind energy development near Lanesborough, in County Longford and has commenced the process of Environmental Impact Assessment with an intended submission in early 2025. The proposed development will be referred to as Derryadd Wind Farm. TOBIN are the Lead Planning and Environmental Consultants for the proposed development and are the main authors of this Scoping Report.

Bord na Móna Powergen Ltd. is a subsidiary of Bord na Móna Plc, a publicly owned company, originally established in 1946 to develop and manage some of Ireland's extensive peat resources on an industrial scale, in accordance with government policy at the time. Bord na Móna's lands extend to approximately 80,000 hectares in total and are located mainly in the Irish midlands. Bord na Móna Powergen Ltd. currently manage and operate a portfolio of thermal and renewable assets that supply energy to the National Grid including Edenderry Power Plant, a biomass generating unit, Cushaling peaking plant, the Drehid landfill gas facility, Bellacorick Wind Farm and Oweninny Wind Farm (Phase 1 and Phase 2) in County Mayo, Mountlucas Wind Farm in County Offaly and Bruckana Wind Farm, situated on the borders of counties Tipperary, Kilkenny and Laois, Derrinlough Wind Farm in County Offaly, Timahoe North Solar farm in County Kildare and Cloncreen Wind Farm project, in County Offaly .

This Scoping Document provides detail with regard to the proposed development and the proposed development site, including the site selection process. It also sets out the proposed scope of work for the EIA. This EIA Scoping document will be circulated to all statutory and key stakeholders (refer to list in Appendix A), who are invited to respond with any comments or observations that should be considered as part of the assessment process and in the preparation of the EIAR.

Bord na Móna continues to remain committed to becoming a major supplier of renewable energy by using the land to continue to underpin Ireland's energy independence by developing green, sustainable energy sources to assist with Ireland's commitment to generate 80% renewable electricity by 2030. Furthermore, the company maintains its view that the most appropriate climate change solution and optimum land use for this site continues to be a project combining wind energy, amenity, and rehabilitation.

Therefore, the company has made the decision to progress a new wind farm planning application for the site. The proposed development will contribute to both Ireland's and the European Union's renewable energy targets. It will also contribute to increasing the security of Ireland's energy supply and will facilitate a higher level of energy generation and self-sufficiency.

1.2 Legislative Framework

1.2.1 Environmental Impact Assessment

The Environmental Impact Assessment (EIA) of Projects is a key instrument of European Union environmental policy. It is currently governed by the terms of European Union Directive 2011/92/EU, as amended by Directive 2014/52/EU on the assessment of the effects of certain public and private Projects on the environment (EIA Directive). Since the adoption of the first EIA Directive in 1985 (Directive 85/337/EEC), both the law and EIA practices have evolved. The EIA Directive was amended by Directives 97/11/EC, 2003/35/EC, and 2009/31/EC. The Directive and its three amendments were codified in 2011 by Directive 2011/92/EU. The codified Directive was subsequently amended by Directive 2014/52/EU.

These Directives have been transposed into Irish law through Section 176 of the Planning and Development Act 2000, as amended, and Article 93 and Schedule 5 of the Planning and Development Regulations 2001, as amended.

1.2.2 Appropriate Assessment / Natura Impact Statement

In addition to the above, a Screening for Appropriate Assessment (AA) will be prepared for the proposed development. The purpose of the AA will be to inform the Planning Authority in its undertaking of an 'Appropriate Assessment' of the proposed development, as required under Article 6(3) of the EU Habitats Directive (92/43/EC). This is an assessment of the potential for significant or adverse effects resulting from the proposed development, both individually and in-combination with other activities, plans and projects, on European Site(s) as designated under the EU Habitats Directive and the conservation objectives for their qualifying species and habitats. The initial screening assessment will determine whether a Stage 2 Natura Impact Statement (NIS) is required.

1.2.3 Strategic Infrastructure Development

The Strategic Infrastructure Development (SID) thresholds for wind energy set out in the 7th Schedule of the Planning and Development Act 2000, as amended, are 25 no. turbines or 50 Megawatts (MW). It is intended that the proposed development will have an output in excess

of 50 Megawatts. Should the project be of this scale, an application is made to An Bord Pleanála seeking a determination in relation to the SID status, or otherwise, of the proposed wind energy development. If An Bord Pleanála determines that the development is indeed SID, the planning application will be submitted directly to An Bord Pleanála, under the provisions of Planning and Development (Strategic Infrastructure) Act 2006. Should the project be of a scale lower than the SID thresholds, an application for planning permission will be made to Longford County Council.

In 2018, An Bord Pleanála determined that the application met the SID threshold for wind energy set out in 7th Schedule of the Planning and Development Act 2000, as amended. It is anticipated that the same approach will apply to this planning application. Further engagement will take place with An Bord Pleanála to ensure this determination still exists.

1.3 Environmental Impact Assessment Scoping Process

The *Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Environmental Protection Agency, 2022)* define scoping as:

> *A process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information.*

The purpose of the scoping for the Environmental Impact Assessment is to provide a framework for the approach to be taken for the individual specialists evaluations, to identify environmental topics for which potential significant environmental effects may arise, to provide a framework for the consultation process to take place with prescribed Statutory Bodies as part of the environmental assessment work, and as such, a structure for the preparation of the EIAR to be prepared and the information required to be included therein.

The European Commission's, "Guidance on EIA Scoping" (EU 2017) notes the following as being the benefits of scoping:

- *Identifies key issues to be addressed*
- *Saves time and money*
- *Stimulates early consultation*
- *Sets appropriate time and space boundaries*
- *Helps to identify preliminary alternatives and mitigation measures*

This Scoping Report will form the basis for the scoping process to be undertaken by the applicant's consultants on behalf of Bord na Móna Powergen Ltd., with the Planning Authority and the prescribed Statutory Bodies.

The scoping process will allow statutory consultees to provide information, data or additional guidance from their governmental departments and will facilitate the iteration of the design and EIA process, to determine what the main potential significant effects might be and what subtopics the EIAR should focus upon.

1.4 Scoping Report Structure

Individual specialists will undertake their evaluations of the environment including evaluation under the following topics:

- Reasonable Alternatives
- Policy, Planning and Development Context
- Population and Human Health
- Biodiversity
- Land, Soils and Geology
- Hydrology and Hydrogeology
- Air Quality
- Climate Change
- Shadow Flicker
- Material Assets: Aviation, Telecommunications and Other
- Noise and Vibration
- Landscape and Visual Impact Assessment
- Archaeology, Architectural and Cultural Heritage
- Traffic and Transport
- Major Accidents and Natural Disasters
- Interaction of the Foregoing

1.5 EIA Team

TOBIN have been engaged by Bord na Móna Powergen Ltd. to coordinate the Environmental Impact Assessment and prepare the EIAR for the proposed development. The relevant specialists included in the Study Team, who are both experienced and competent in their areas of expertise, are noted here:

- TOBIN staff will provide expertise in relation to project direction, project management, EIAR production and expertise in relation to the environmental evaluation of the following topics:
    - Planning

    - Population and Human Health
    - Biodiversity (Flora and Fauna)
    - Biodiversity (Ornithology)
    - Land, Soils and Geology
    - Hydrology and Hydrogeology
    - Shadow Flicker
    - Traffic and Transportation
    - Major Accidents and Natural Disasters
- Dr. Tina Aughney – Biodiversity (Bats)
- Gavin & Doherty Geo-solutions - Geotechnical & Slope Stability Assessment;
- AWN Consulting – Air Quality and Climate
- AWN Consulting – Noise and Vibration
- Macro Works – Landscape and Visual Impact
- AiBridges – Aviation, Telecommunications and Electromagnetic Interference; and
- Through Time Ltd – Archaeological, Architectural and Cultural Heritage.

2.0 THE PROPOSED DEVELOPMENT SITE

2.1 Site Location

The proposed development, known as Derryadd Wind Farm (See Figure 2.1, Appendix B) is located on three cutover bogs (Derryaroge, Derryadd and Lough Bannow) within the Mountdillon Bog Group in Co. Longford. The three bogs have an area of approximately 1,900 hectares in area and lie directly to the east of the R392 which runs from Lanesborough in the north to Ballymahon in the south.

The area is 12.1 km long in the northwest/southwest direction and is approximately 3.8 km wide in an east/west direction. The three bogs are surrounded by the towns and villages of Lanesborough, Derraghan, Keenagh and Killashee while the main urban centre in the region, Longford Town, is 9 km to the northeast from its nearest point. Derryaroge Bog to the north is approximately 1 km East of the River Shannon and Lough Bannow Bog is approximately 0.5 km to the west of the Royal Canal which runs in a north south direction.

The surrounding landscape is a mixture of forestry, agricultural land and cutaway peatland. The landscape is predominately flat. The most significant feature in the surrounding landscape is 'Bawn Mountain' which is located 8 km to the east of Lough Bannow Bog as per Longford County Development plan.

The significant energy infrastructure that exists in the local area is Lough Ree Power Station located approximately 1.8 km to the west of Derryaroge bog, and its associated grid infrastructure in the form of 110kV pylons network (in particular the Lanesborough/Richmond line). The Lough Ree Power Station is no longer in operation.

The proposed development is in a suitable area for wind energy development as outlined in the Longford County Development Plan 2021 – 2027, Chapter 13: Green Infrastructure.

The environmental sensitivity of a site for its suitability for wind farm development is assessed at a high level by examining the nature of the on-site habitat and also the presence or absence of Natura 2000 and nationally designated sites in the vicinity or within a site.

Bord na Móna has carried out extensive and detailed habitat mapping of it lands over the last decade. The proposed development is located approximately 2.5km East of Lough Ree, with the Royal Canal running roughly parallel on the East, with the shortest distance being approximately 0.47km from the site boundary, and the River Shannon approximately 1.4km

North, with one a river tributary running parallel to the North-West corner of the planning boundary for 300m. Other sites of interest in the immediate vicinity are Fortwilliam Turlough, Cordara Turlough, Lough Slawn, Lough Bawn, Lough Bannow, Derrylough and Forthill Bog.

The land use/activities on the three bogs consists primarily of cutaway peatlands with the ongoing decommissioning and rehabilitation works following the cessation of peat extraction in 2019.

Industrial scale peat extraction was permanently ceased by the Applicant at the Application Site in July 2019. From July 2019 until November 2022, all remaining stockpiled peat was systematically removed from the Application Site. The Applicant's statutory duties to discharge the conditions of its Integrated Pollution Control (IPC) Licence (Ref. P0504-01; "IPC Licence" hereafter), from the Environmental Protection Agency (EPA) for the Mountdillon Bog Group, which encompasses the Application Site, also remain on-going. These ongoing duties, such as environmental monitoring, do not facilitate the continuation of peat extraction, but rather ensure compliance with the Applicant's extant EPA Licence. Decommissioning activities include the decommissioning and removal for disposal/recovery of any materials, buildings, plant equipment, substances or any other matter that may result in environmental pollution.

2.2 Site Context

The site is owned by Bord na Móna Plc and subsidiaries comprises cutover and cutaway bog. Industrial scale peat production operations occurred at the site for over half a century from the 1950's to supply the Lough Ree Power Station. Peat production ceased in 2019 following the end to all peat extraction on Bord na Móna lands. The Application Site still operates under the requirements of IPC Licence P0504-01, and any decommissioning works undertaken with respect to peat extraction activities and all ancillary works are in accordance with Condition 10 of the IPC Licence. As part of Condition 10 of the IPC Licence (P0504-01), decommissioning and rehabilitation will be carried out as standard remedial measures associated with peat extraction activities and all ancillary works at the Application Site. In line with Bord na Móna's accelerated decarbonisation strategy, and the availability of government funding, the company has also committed to ambitious enhanced peatland decommissioning, rehabilitation and restoration measures, targeting circa 33,000 ha in over 80 no. Bord na Móna bogs.

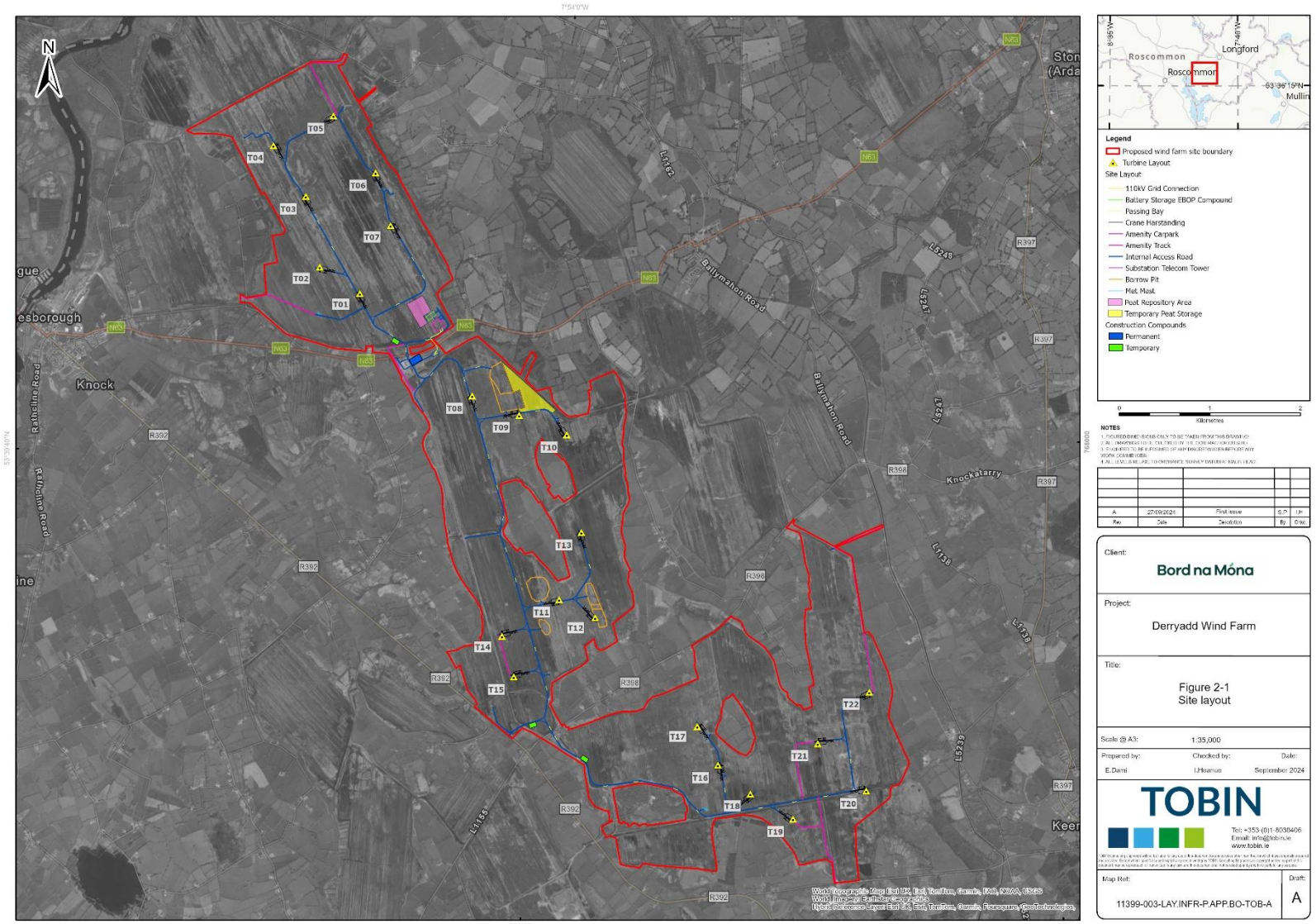
Operational and consented wind farms in the vicinity of the site include:

- Sliabh Bawn Wind Farm – Approximately 8 km northwest of the proposed development site in County Roscommon;

- Skrine Wind Farm - Approximately 19 km southwest of the proposed development site; and,
- Roosky Wind Farm - Approximately 14.5 km north of the proposed development site.

The proposed Derryadd Wind Farm study area and site layout is shown in Figure *2.1*.

Figure 2.1: Study Area / Site Layout



3.0 THE PROPOSED DEVELOPMENT

3.1 Overview

The scale and layout of the proposed wind farm will be determined during the EIA process.

When the planning application and EIAR have been prepared in full, comprehensive detail will be provided in relation to the project description, based on a definitive layout for the proposed infrastructure that takes account of the various constraints and impact assessments, and the project will have gone through reviews and design iterations as part of the EIA process.

The layout of the proposed development provides for 22 wind turbines with an installed capacity of approximately 6 MW per turbine resulting in an estimated 132 MW in total for the wind farm .

The proposed development will comprise the following elements;

- 22 no. wind turbines with a blade tip height of 190 m, blade rotor diameter of 165 m, hub height of 107.5 m and the associated infrastructure including tower sections, nacelle, hub, and rotor blades and all associated foundations and hard-standing areas in respect of each turbine;
- New internal site access roads, approximately 27,500 m in length including passing bays and associated drainage;
- Approximately 7,500 m of dedicated amenity access tracks to provide linkages between the proposed wind farm site roads, royal canal greenway (to the east), the Corlea visitor centre and amenity areas (to the south), and wider proposed Mid-Shannon Wilderness Park Area and proposed Lough Ree Biosphere (UNESCO proposed site);
- 3 No. permanent amenity carparks, one of which is situated in Derryaroge Bog (19 no. car parking spaces in total) and two carparks in Derryadd Bog (19 no. car parking spaces in each carpark).
- 2 no. permanent Meteorological Masts, both of which will be 120 m in height, and associated hardstanding areas for both masts, as well as the decommissioning and removal of an existing 100 m Meteorological Mast on site in Lough Barrow Bog;
- 4 No. Borrow pits in Derryadd Bog; All works associated with the opening, gravel and spoil extraction, and decommissioning of the borrow pits.
- 1 permanent construction compound and 3 no. temporary construction compounds, including material storage, site welfare facilities, bin/waste storage and site offices;

- 4 no. temporary security cabins at the main construction site entrances as well as at a number of access points around the proposed wind farm site.
- 1 no. 110 kV electrical substation compound in Derryaroge Bog. The substation will consist of 2 no. control buildings, a 36 m high telecommunications tower, associated electrical plant and equipment, ground water well,, wastewater holding tank and welfare facilities. All associated underground electrical and communications cabling connecting the turbines and masts to the proposed electrical substation, including road crossing at N63 and associated grid connection via a 110 kV loop-in connection to the existing Lanesborough-Richmond 110 kV overhead line which traverses the proposed wind farm site;
- 1 no. 16 MW battery storage facility;
- 1 no. permanent Peat Repository Area to the north of the proposed substation compound in Derryaroge Bog and 1 no. temporary Peat Repository Area in Derryadd Bog;
- Electrical and communication cables, linking the turbines to the proposed 110 kV substation and control building;
- Temporary accommodating works to include modifications to public road infrastructure and hinge 3 no. permanent lighting fixtures in Folio RN40465F in Roscommon town to facilitate the delivery of abnormal loads (i.e. turbine blades);
- All associated site work and ancillary works including new drainage and updating existing drainage, access road, earthworks, site reinstatement and erosion control, which will be aligned with the existing and future site rehabilitation plans.

3.1.1 Historical Project Context

It shall be noted that a planning application was submitted to An Bord Pleanála in January 2019 (Planning Ref. No. 303592) for the Derryadd Wind Farm at Lanesborough. Subsequently this was approved planning in June 2020 but the decision was overturned, following a high court ruling to overturn An Bord Pleanála's decision to grant planning permission for a 24 turbine Wind Farm, based on a point of planning law.

3.2 Turbine Locations

As outlined previously, a 22-turbine layout is proposed across the proposed wind farm site. Refer to Figure 2.1.

3.3 Wind Turbine Specifications

The exact rating and design of the proposed turbine, subject to completion of the statutory processes, will be subject to a competitive tender and will be detailed by the turbine manufacturer on award of the contract. However, the proposed turbines will be the three bladed, horizontal axis type with general specifications as follows:

- The turbines will have a tip height of 190m above the top of foundation level;
- Rotor diameter will be 165m with a corresponding blade length of 81m;
- A turbine hub height of 107.5m; and
- Anticipated installed capacity of approximately 6MW per turbine resulting in an estimated 132MW in total for the wind farm.

3.4 Internal Infrastructure and Access

The internal access route layout, access route types and construction methodologies will be designed and the location of the proposed entrance to the windfarm site will be confirmed. The initial layout design will be proposed by the design team and assessment of potential delivery routes and access points through which turbine components and construction related deliveries may be made will commence at that stage.

3.5 Electrical / Mechanical Equipment

The main mechanical and electrical components associated with the development include the following:

- Turbine components (tower sections, nacelle, hub, rotor blades);
- A 110kV onsite Substation. The substation will consist of 2 No. control buildings, a 36m high telecommunications tower, associated electrical plant and equipment, Groundwater well, wastewater holding tank and welfare facilities.;
- Electrical cable, linking the turbines to the proposed 110kV substation and control building;
- 16MW battery storage facility;
- 2 no. permanent Meteorological Masts, both of which will be 120m in height, and associated hardstanding areas for both masts, as well as the decommissioning and removal of an existing 100m Meteorological Mast on site;
- SCADA cable; and
- Main and assist cranes.

It is noted that one existing wind monitoring mast is in place in the vicinity, at Lough Bannow Bog.

3.6 Peat Management

It is proposed that a site investigation programme will be specified in conjunction with the requirements of the designers. The site investigation plan will provide detail on soils, geology, peat types and depths, and potential requirements for water management and drainage.

The nature and requirements of the potential peat management system will be informed by the information from the site investigation, site surveys and visits, and the evaluations undertaken by the multi-disciplinary team.

3.7 Grid Connection

It is noted that significant energy infrastructure exists in the local area e.g. Lough Ree Power Station located to the west of Derryaroge Bog (no longer in operation), and its associated grid infrastructure in the form of the 110kV pylons network, in particular the Lanesborough/Richmond line. Proposed connection point(s) and method of connection to the grid will be evaluated as part of the design and EIA process. A new 110 kV loop-in connection to the existing Lanesborough/Richmond 110 kV overhead line is proposed. An onsite 110kV sub-station compound will be provided as part of the proposed development. The substation will consist of 2 no. control buildings, a 36m high telecommunications tower, associated electrical plant and equipment and welfare facilities.

3.8 Decommissioning

The turbines are expected to have a physical lifespan of approximately 30 years. In certain circumstances, the developer may wish to replace turbines prior to the end of the design lifetime. Such a decision would be made on the merits of economic and technical factors at the time of assessment and undertaken in consultation with the local authority.

Turbine design renders the decommissioning process a straightforward process. In the decommissioning phase, cranes disassemble each turbine section and remove from the site. The upper sections of the foundations projecting above ground will be removed, and the remainder of the foundations will be covered by soils typical of the surrounding environment and then re-seeded or left to re-vegetate according to ecological requirements. Underground cables will be cut back at the turbine termination points and will either be recycled or left buried in situ (de-energised). It is proposed that site routes would remain to allow access through the site either

for further alternative development of the site or for amenity purposes, as considered appropriate at the time.

Site materials will be recycled where practicable or disposed of in accordance with current waste legislation and best practice guidelines.

Decommissioning activities are assumed to be similar to construction activities, having similar type risks and sensitive receptors associated with them.

3.9 Rehabilitation/Concurrent or Future Use of the Site

Peat extraction operations at Derryadd ceased in the Summer of 2019 and since then preparation works ahead of decommissioning and rehabilitation have been underway. The site will continue to undergo rehabilitation works under a draft bog rehabilitation plan required under Condition 10 of the IPC licence (Ref. No. P0504-01). Rehabilitation works will likely continue during the construction and operation of the wind farm for a period of time, which will enhance the rehabilitation of the site. Any areas of high biodiversity identified during the initial constraints study and the EIA study surveys will remain intact.

3.10 Initial Constraints

The design of the proposed development is constraints led, thereby avoiding the most environmentally sensitive parts of the site. Initial mapping of known constraints has commenced including but not limited to;

- Planning designations / preferred wind energy development areas per the Longford County Development Plan 2021 - 2027,
- Location of houses and other sensitive receptors,
- Known and mapped archaeological constraints,
- Natura 2000 and other Designated Sites,
- Watercourses and Lakes,
- Existing ecological data available for the site,
- Landscape character areas,
- Telecoms and aviation constraints,
- Existing electricity infrastructure.

4.0 INFORMATION TO BE CONTAINED IN THE EIAR

4.1 Key Guidance Documents

This EIAR has been prepared in accordance with Planning and Development Regulations as amended 2001-2023, and with due regard to the following EIAR guidance;

- Guidelines for Planning Authorities and An Bord Pleanala on carrying out Environmental Impact Assessment (Government of Ireland, 2018);
- 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' published in 2022 (EPA, 2022);
- 'Environmental Impact Assessment of Projects Guidance on Scoping' (Directive 2011/92/EU as amended by 2014/52/EU); and,
- 'Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report' (Directive 2011/92/EU as amended by 2014/52/EU), published by the European Commission.'

Additionally, discipline specific best practice guidance has been consulted by each specialist for each of the relevant topics during the preparation of the EIAR.

4.2 Structure of the EIAR

The EIAR will be presented in three volumes as follows:

- Volume A: Non-Technical Summary
- Volume B: Main Report - EIAR
- Volume C: Appendices

Each volume is described in more detail in the following sub-sections.

4.2.1 Non-Technical Summary

Volume A of the EIAR will be the Non-Technical Summary. This document will give an overview of the main EIAR using non-technical language. It will be a standalone document which presents a clear and concise summary of the existing environment, characteristics of the proposed development, a clear outline of the potential significant effects which could result from the proposed development and mitigation measures adopted into the design of the development to minimise effects on the surrounding environment.

4.2.2 EIAR – Main Report

Volume B will comprise the Main EIAR Report. The information to be contained in an EIAR is specified in Schedule 6 of the Planning and Development Regulations, 2001, as amended and in the EIA Directive as amended by Directive 2014/52/EU. The structure of the Main EIAR Report will be based on the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022). The EIAR will use the grouped structure method to describe the existing environment, the likely significant effects of the proposed development and the proposed mitigation measures. The EIAR will comprise the following chapters:

- Introduction
- Background to the Proposed Development
- Description of the Proposed Development
- Consideration of Reasonable Alternatives
- Policy, Planning and Development Context
- Population and Human Health
- Biodiversity – Flora and Fauna
- Biodiversity – Ornithology
- Land, Soils and Geology
- Hydrogeology, Hydrology and Water Quality
- Air Quality
- Noise and Vibration
- Shadow Flicker
- Landscape and Visual Impact
- Aviation, Telecommunications and Electromagnetic Interference
- Traffic and Transportation
- Archaeological, Architectural and Cultural Heritage
- Climate
- Major Accidents and Natural Disasters
- Interaction of Effects
- Schedule of Mitigation and Monitoring Measures.

Background information relating to the applicant, the proposed development site, scoping and consultation undertaken and a description of the proposed development, including both the construction, operational and decommissioning phases, will be presented in Chapters 1 to 3 inclusive of the EIAR. The scope and content of the remaining chapters is outlined in detail in the sections that follow in this scoping report.

4.2.3 Appendices

Volume C of the EIAR will contain the various appendices that are referred to in the individual chapters of the main EIAR Report. These will include graphics and tabular data that if they were included in the main EIAR Report, would make that report difficult to read. Photomontages will be contained in Volume C of the EIAR.

4.3 Baseline Assessment

Following an introduction to the EIAR, the following information will be presented:

- Description of the existing environment – a detailed description of the existing environment to allow the baseline conditions at the development site to be understood and existing areas of sensitivity to be recorded (as per the EPA EIAR Guidelines).
- Description of the proposed development, including site layout and infrastructural details, construction procedures and the materials required, the operational and maintenance phases in addition to the decommissioning and rehabilitation phases.
- Consideration of Reasonable Alternatives – This provides a detailed assessment of alternatives considered in the selection of site location and site layout.

4.4 Assessment Methodology

In the case of each of the environmental topics, it is proposed that the following elements will be evaluated, and that the format of the EIAR will follow the standard methodology and be presented in accordance with the above-mentioned legislation and guidelines. Individual chapter topics are discussed further below in this section. The development is assessed and described within each environmental topic in terms of:

- **Introduction -** includes a background to the assessment and describes the study methodology employed in carrying out the assessment.
- **Existing Environment –** Describes and assesses the existing environment in the context of the relevant environmental categories. This section also takes account of any other proposed and existing developments in the vicinity.
- **Potential Effects** - Provides the description of the potential specific direct, indirect and cumulative effects, associated with the development. This is done with reference to the existing environment and characteristics of the proposed development, while also referring to the magnitude, duration, consequences and significance of the effect associated with the construction, operation and decommissioning of the development. This section also considers cumulative effects with other proposed or permitted developments.
- **Mitigation Measures** - A description of any remedial, or mitigation measures that are either practicable or reasonable having regard to the potential effects. It will also outline, where relevant, monitoring proposals to be carried out should consent be granted in order to demonstrate that the project in practice conforms to the predictions made.

- **Residual Effects -** Provides the description and assessment of the predicted residual effects associated with the development on the surrounding environment.
- **Conclusion –** Provides a summary of the salient points of the assessment chapter.

4.5 Assessment of Effects

As stated in the *Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, May 2022)*, an assessment of the likely significant effects of a proposed development is a statutory requirement of the EIAR process. The criteria for the presentation of the characteristics of potential significant effects will be described with reference to the magnitude, spatial extent, nature, complexity, probability, duration, frequency, reversibility, cumulative effect and transboundary nature (if applicable) of the effect.

The classification and description of effects in the EIAR will follow the terms provided in Table 3.4 of the EPA Guidelines (2022) referenced above (and duplicated in Table 4.1 below for information purposes). According to the Guidelines, the relevant terms listed in the table below can be used to consistently describe specific effects, but all categories of terms do not need to be used for every effect.

The use of standardised terms for the classification of effects will ensure that the EIAR employs a systematic approach, which can be replicated across all disciplines covered in the EIAR. The consistent application of terminology throughout the EIAR will facilitate the assessment of the proposed development on the receiving environment.

Table 4.1: Descriptions of Effects (as per Table 3.4 of the May 2022 EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports)

Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative, or neutral.	**Positive Effects** A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).
Describing the Significance of Effects ''Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see *Determining Significance* below).	**Imperceptible** An effect capable of measurement but without significant consequences.
	Not significant An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	Significant Effects An effect which, by its character, magnitude, duration, or intensity alters a sensitive aspect of the environment.
	Very Significant An effect which, by its character, magnitude, duration, or intensity significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics

Describing the Extent and Context of Effects Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.	**Extent** Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
	Context Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur – so that the CA can take a view of the balance of risk over advantage when making a decision.	**Likely Effects** The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Describing the Duration and Frequency of Effects 'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	**Momentary Effects** Effects lasting from seconds to minutes
	Brief Effects Effects lasting less than a day
	Temporary Effects Effects lasting less than a year
	Short-term Effects Effects lasting one to seven years
	Medium-term Effects Effects lasting seven to fifteen years
	Long-term Effects Effects lasting fifteen to sixty years
	Permanent Effects Effects lasting over sixty years
	Reversible Effects Effects that can be undone, for example through remediation or restoration
	Frequency of Effects Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)

4.6 Potential Mitigation and Monitoring

The strategies for identification of appropriate Mitigation Measures, as detailed in the EPA Guidelines (2022), will be followed in the preparation of the EIAR.

There are four established strategies for effects mitigation - avoidance, prevention, reduction and remedy/offsetting. As noted above, following the iteration of the design and EIA process, and following implementation of any design mitigation, the description of any remedial, or mitigation measures that have been incorporated into the design will be included to offset or minimise identified potential adverse effects. In accordance with the guidelines, these measures can mitigate effects:

- By Avoidance - When no effect is caused (often through consideration of alternatives).
- By Prevention - When a potential effect is prevented by a measure to avoid the possibility of the effect occurring.
- By Reduction - When an effect is lessened.
- By Remedy/Offsetting - When an adverse effect is resolved by a remedial action or balanced by a positive effect.

It may be appropriate, where relevant, to propose monitoring takes place after consent is granted in order to check that the project in practice conforms to the predictions made during the EIA and to record any unforeseen effects in order to undertake appropriate remedial action (EPA, 2022).

4.7 Construction Environmental Management Plan (CEMP)

A standalone Construction Environmental Management Plan (CEMP) will also be prepared and appended to the EIAR. The CEMP will set out the details of proposed construction compounds, construction methodologies, environmental mitigation measures and proposed reinstatement measures. The CEMP will incorporate the relevant construction phase mitigation measures which will have been integrated into the project, EIAR and AA/NIS.

5.0 CONSIDERATION OF REASONABLE ALTERNATIVES

As set out in the EIA Directive, the EIAR is required to provide a description of the reasonable alternatives examined by Bord na Móna, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

5.1 Alternative Sites

In respect of consideration of alternative sites, the EIAR will set out the reasonable alternative sites available to Bord na Móna which will include consideration of suitable land banks held in ownership by Bord na Móna. Details on the assessments carried out to identify the proposed site location as appropriate for this proposed development will be provided.

5.1.1 Selection of Candidate Sites

In 2011, Bord na Móna published a 'Strategic Framework for The Future Use of Peatlands'. The strategy sets out the company's commitment to transition to peat-free electricity generation by 2030, establishes a framework for the on-going assessment of the company's total land bank of approximately 80,000ha, and provides for the formulation of appropriate strategies, policies and actions. In 2015 Bord na Móna published *Sustainability 2030*, which sets out the company's ambition for a sustainable future. The development of renewable energy as an after use for cutaway peatlands is a central part of the vision in *Sustainability 2030*.

Bord na Móna conducted a technical review of potential candidate sites for wind energy projects nationally across its entire landbank. This exercise reviewed a list of potential project sites, with a typical target capacity of between 50 MW and 100 MW and with the best potential to deliver successful future windfarm projects.

As part of this site selection process, known constraints were applied across the entire land bank to determine areas suitable for potential wind farm development. The constraints themselves are derived from various industry and regulatory guidelines and available Geographical Information Systems (GIS) datasets, and ground truthing where appropriate. This methodology was used to generate a list of potential sites for further consideration with the level of information currently available. These sites, identified as having a higher potential for wind farm development, were then brought forward for site-specific assessment, as detailed below.

5.1.2 Site Specific Assessment

The site-specific assessment of the candidate sites was guided by the 2013 'Methodology for Local Authority Renewable Energy Strategies' report from the Sustainable Energy Authority of Ireland (SEAI). For the site-specific assessment of candidate sites, criteria were chosen which not only covered the broad range of issues which can arise in wind farm development, but also allowed for direct comparison of the candidate sites to each other to determine their relative suitability for wind farm development. The site-specific selection criteria and outline of basis for assessment for each criterion are listed in Table 5.1.

Table 5.1 Site-Specific Selection Criteria

Criterion	Basis for Assessment
Grid Access/Capacity	Grid Access/Capacity means potential of the National Grid to accommodate future projects on the network. The proximity of the project to suitable grid nodes (i.e. those with spare capacity) should increase the likelihood of a project being selected for a grid connection offer.
County Development Plans and Zoning	County Development Plans typically indicate the areas of a county which are deemed preferred, open to consideration and not suitable for wind farm development. Bord na Móna has committed not to develop wind farms in areas deemed unsuitable.
Proximity to Houses	Refers to how close turbines are to residences.
Wind Resource Assessment	The available wind resource (i.e. wind speed) directly translates into how much electrical output comes from the site.
Environmental Sensitivity	Environmental Sensitivity is the ecological sensitivity of the site based on proximity to sensitive areas within or around the site.
Cumulative Effect	Depends on the landscape's capacity to absorb wind farm developments.
Aviation	Airspace control and use to be considered.
Land Use	Internal issue relating to the residual peat depth and alternative uses.
Communications Infrastructure	Telecoms masts and signals to be considered.
Flood Plain Analysis	Flood Plain Analysis assesses the wind farm's location in terms of historical flooding data.
Supporting Infrastructure	Sites with better road access require less modifications or upgrade to the local infrastructure to facilitate construction.

These site-specific assessments were conducted by Bord na Móna with input from relevant subject experts where required. Detail was recorded for each site under each criterion and a

score was awarded for each. A shortlist of sites deemed suitable for a large-scale wind energy development was compiled. The proposed development site was one of a number of sites to make the final shortlist. Of these sites, the proposed Derryadd Wind Farm site was selected as a site with low potential for environmental effects. Furthermore, the sites close proximity to a potential grid connection deemed that Derryadd should be progressed for detailed assessment and planning consideration.

Further details on the identification of Derryadd as the optimal site for the proposed development area presented under the individual site selection criteria describe below:

Grid Access/ Capacity:

Significant energy infrastructure exists in the local area, such as Lough Ree Power which is located to the west of Derryaroge Bog and its associated grid infrastructure in the form of 110kV pylons network (in particular, the Lanesborough/Richmond Line). The proposed wind farm connection will be assessed in the EIAR.

County Development Plans and Zoning:

County Development Plans and Wind Energy Strategies, where available, typically indicate the areas of a county which are zoned as preferred, open to consideration or not suitable for wind farm development. Bord na Móna has committed not to develop wind farms in areas deemed unsuitable.

Derryadd is one of a number of candidate sites that is located within an area deemed suitable or preferred for wind energy development by the relevant County Development Plans, and which therefore scored highly with regard to this criterion. Sites located within undesignated wind development areas or areas open for consideration are scored lower.

Proximity to Houses:

It was found that in general Bord Na Móna sites are surrounded by low density rural housing, and most sites have a relatively large proportion of their land area free from proximity issues. However, longer narrower sites had a larger proportion of their land area constrained out due to proximity issues to houses or population centres.

The Derryadd site measures approximately 1,900 hectares and is of sufficient size to accommodate a large-scale wind energy development, while maintaining the required set-back distance from houses in the surrounding area.

5.2 Alternative Design

In the context of alternative design (incorporating scale and size), this section of the EIAR will set out the processes and assessments that were followed to arrive at the proposed turbine layout, turbine envelope and infrastructure layout. This section will be informed by

comprehensive site surveys and ground investigations.

5.3 Alternative Technology / Alternative Processes

The proposed wind farm development at Derryadd will support European and National policy in decarbonising electricity generation and contribute to Ireland's target to generate 80% (recently increased from 70%) of the country's electricity from renewable sources by 2030. There are a number of different renewable energy technologies available on the market, however not all will be viable at the proposed development location. This section will consider the various renewable energy alternatives (such as solar) and will assess the alternative wind turbine technologies available.

6.0 POLICY, PLANNING AND DEVELOPMENT CONTEXT

The planning assessment will evaluate the planning history and the planning and development context of the proposed wind farm development site. The evaluation will include a review of relevant European, National and local planning policy documentation, planning legislation, strategies and plans and set the local context of the project. Also reviewed will be the Regional Spatial and Economic Strategy for the Region, County Development Plans, Wind Energy Strategies, the Preferred Emerging Wind Energy Guidelines and other appropriate renewable/wind energy development policies as they emerge.

A full review of all renewable energy applications (wind and solar) and other relevant applications local to the site will be carried out to identify potential technical and environmental cumulative effects and to present a summary of the local renewable energy infrastructure.

At an international and European level, this will include:

- The European Green Deal 2019;
- Europe 2020 Climate and Energy Framework;
- Europe 2030 Climate and Energy Framework;
- Energy Roadmap 2050;
- Renewable Energy Directive 2009/28/EC & Recast Directive 2018/2001/EU;
- The Regulation on Nature Restoration (Nature Restoration Law) 2024;
- REPower EU Plan & Council Regulation (EU) 2022/2577; and,
- Council Regulation (EU) 2022/1854 (EU Emergency Regulations).

At a national level this will include:

- National Energy and Climate Plan (NECP) 2021-2030;
- Climate Action Plan 2024;
- Ireland 2040 - Our Plan (National Planning Framework) [2018];
- Revised National Development Plan 2021-2030;
- Government White Paper – Ireland's Transition to a Low Carbon Energy Future 2015-2030;
- National Renewable Energy Action Plan 2010;
- Climate Action and Low Carbon Development Act 2015;
- Climate Action and Low Carbon Development (Amendment) Bill 2021;
- National Wind Energy Guidance Documents including:
    - Wind Energy Development Guidelines 2006;

  - Draft Revised Wind Energy Development Guidelines – December 2019;
  - Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy, and Climate Change (2017);
  - Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement (DCCAE, 2016);
- Accelerating Renewable Electricity Taskforce Implementation Plan 2024;
- Draft Revised National Planning Framework (2024);
- National Energy Security in Ireland to 2030; and
- National Energy Security Framework 2022.

At a regional level this will include:

- Regional Spatial and Economic Strategy (RSES) 2019-2031 for the Eastern & Midland Regional Assembly

At a local level this will include:

- Longford County Development Plan 2021-2027;
- Adjoining County Development Plans including Roscommon County Development Plan 2022-2028; Westmeath County Development Plan 2021-2027; and Leitrim County Development Plan 2015-2021 (Draft 2023-2029 underway).

7.0 POPULATION AND HUMAN HEALTH

7.1 Introduction

The Population and Human Health effect assessment will evaluate the receiving environment/land use and will include analysis of local population patterns. The assessment will also include a review of appropriate demographic documentation and incorporates Census Reports and Electoral Division Information, Land use, Population, Employment and Planning Permissions. In addition, the evaluation will provide details of Bord na Móna Community Benefit proposals and any consultation with regard to these proposals. The chapter will also assess the effect of the proposed development on human health.

7.2 Assessment of Effects

A review of the current census data will be completed. The existing local population will be described and the projected change in the population, if any, of the study area will be assessed. This section will also address the effects of the development on residential amenities in the surrounding area. In addition, the positive economic effects will be examined, as employment will be created during the construction and operational phase of this proposed development. The proposed development will also generate a community benefit fund and create investment opportunities for the local community. This section will also consider public access, adjacent landowners / dwellings and local services such as existing electricity power lines / masts in the vicinity of the site. The Human Health assessment will be prepared in accordance with the relevant guidelines produced by the Environmental Protection Agency (EPA), as detailed in below.

The following information sources and references are of relevance in relation to the preparation of the Population and Human Health Chapter;

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment - August 2018 (Department of Housing, Planning and Local Government, 2018);
- Draft Advice Notes for Preparing Environmental Impact Statements (EPA, 2015).
- Draft Guidelines on the Information to be contained in an EIS (EPA, 2013);
- EPA Advice notes on current practice (in preparation of Environmental Impact Statements) 2003;

- EPA Maps - https://gis.epa.ie/EPAMaps/;
- Walking trails - https://www.sportireland.ie/outdoors/find-your-trails outdoors and http://trails.ie/index.php.
- Best Practice Guidelines for the Irish Wind Energy Industry (IWEA, 2012);
- Best Practise Principles in Community Engagement and Community Commitment (IWEA, 2013);
- OSI mapping and Aerial Photography to identify land use and possible amenity sites;
- Longford County Development Plan 2021-2027;
- Eastern and Midlands Regional Assembly, *Regional Spatial and Economic Strategy (2019 -2031)* - https://www.emra.ie/rses/;
- CSO –2011-2022 Census and associated data;
- CSO Health Survey Data;
- Fáilte Ireland website – https://www.failteireland.ie/;
- Fáilte Ireland, *EIAR Guidelines for the Consideration of Tourism and Tourism Related Projects* (as provided by Fáilte Ireland, October 2022)
- Fáilte Ireland website information regarding the Ireland's Hidden Heartlands - https://www.failteireland.ie/IrelandsHiddenHeartlands.aspx; Discover Ireland Website - https://www.discoverireland.ie/;
- Discover Ireland website information regarding the Ireland's Hidden Heartlands - https://www.discoverireland.ie/irelands-hidden-heartlands;
- Health Impact Assessment Resource and Tool Compilation (US EPA, 2016);
- Guidelines for Community Noise (WHO,1999);
- Institute of Environmental Management and Assessment (IEMA), *Health in Environmental Impact Assessment - A Primer for a Proportionate Approach* (2017);
- Effective Scoping of Human Health in Environmental Impact Assessment (IEMA, 2022);
- Determining Significance for Human Health in Environmental Impact Assessment (IEMA, 2022); and
- Health Impact Assessment Guidance (Institute of Public Health Ireland, 2021).
- Department of Health (Government of Ireland), Health in Ireland: Key Trends 2023 Surveys (February 2024);
- Health Service Executive (HSE) Website - https://www.hse.ie/eng/about/who/healthwellbeing/healthy-ireland/ ;
- Institute of Public Health Ireland, *Health Impact Assessment* (2009);
- US Environmental Protection Agency, *Health Impact Assessment Resource and Tool Compilation* (September 2016);

- World Health Organisation (WHO), *Environmental Noise Guidelines for the European Region* (2018);
- WHO, *Night-time Noise Guidelines for Europe* (2009);
- WHO*, Global Air Quality Guidelines* (2021); and
- Pobal Deprivation Index (2016 – 2022).

The assessment of human health for the proposed development, in terms of health protection, will follow the approach set out in the *Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Environmental Protection Agency, 2022)*, *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)* and in the European Commission's Guidance *Environmental Impact Assessment of Projects (2017)*.

8.0 BIODIVERSITY - FAUNA AND FLORA

8.1 Introduction

Scoping is defined by the European Commission as an early stage in the EIA process, designed to ensure that the environmental studies provide all the relevant information, maintaining a degree of flexibility to allow new issues emerging during the course of the environmental studies to be incorporated. (Raymond and Coates, 2001).

To this effect, the EIA scoping stage for biodiversity (fauna and flora) consisted of a desk study for the identification of ecological sensitivities, within the proposed development site and its surroundings, associated with potential effects from the proposed development on habitats and protected species (flora and fauna), in line with the Environmental Impact Assessment Directive 2011/92/EU, as amended by Directive 2014/52/EU, and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296/2018), which implements EU Directive 2014/52/EU in Irish planning law. The desk study had particular consideration for the following guidance:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022);
- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2022);
- Wind Energy Development Guidelines (DoEHLG, 2006);
- Draft Revised Wind Energy Development Guidelines (DoHPLG, 2019);
- National Biodiversity Action Plan 2023-2030 (DoCHG, 2017);
- Best Practice Guidelines for the Irish Wind Energy Industry (Fehily Timoney & Company, 2012);
- Assessing the Cumulative Impact of Onshore Wind Energy Developments (NaturScot, 2018);
- Bats and Onshore Wind Turbines: Survey Assessment and Mitigation (NaturScot et al., 2021);
- Guidelines for Consideration of Bats in Wind Farm Developments (Rodrigues et al., 2015);
- Bat Surveys: Good Practice Guidelines (Hundt, 2012);
- Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023);
- Wind Turbine/Wind Farm Development Bat Survey Guidelines (Bat Conservation Ireland, 2012);

- Guidelines for the Crossing of Watercourses During the Construction of National Road Schemes (NRA, 2008);
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009b);
- Guidelines for the Treatment of Otters prior to the Construction of National Roads Schemes (NRA, 2008);
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (NRA, 2009a);
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009b);
- Best practice guidance for habitat survey and mapping (Smith et al., 2011);
- Guidelines on the Management of Noxious Weeds and Non-Native Plant Species on National Roads (NRA, 2010);
- Biodiversity Action Plan 2023-2030 (NPWS, 2023); and
- Objectives relevant to ecology and biodiversity in the latest Longford County Development Plan 2021-2027 (Longford County Council, 2021).

8.2 Sensitive Receptors

Designated European sites, including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), as well as Nationally designated sites, including Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs), are identified in Table 8-1. There are 9 European sites (7 SACs; 2 SPAs) and 25 National sites (7 NHAs; 18 pNHAs) within the proposed development's study area (no Ramsar sites are located within the proposed development's study area for sensitive receptors).

Furthermore, sensitive ecological features within the study area will be identified as key ecological receptors through a desk study, consultation, and field surveys, and will inform the Environmental Impact Assessment.

Table 8-1: Designated sites within the proposed development's study area for sensitive receptors.

Name	Reference	Qualifying Interests/Special Conservation Interests/Site Synopsis	Approximate Distance from proposed development
European sites			
Lough Ree SAC [000440]	Version 1 (NPWS, 2016d)	• Otter *Lutra lutra* [1355] • Natural eutrophic lakes with Magnopotamion or Hydrocharition – type vegetation [3150] • Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] • Degraded raised bogs still capable of natural regeneration [7120] • Alkaline fens [7230] • Limestone pavements* [8240] • Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] • Bog woodland* [91D0]	2.4 Km
Lough Ree SPA [004064]	Generic Version 9.0 (NPWS, 2022b)	• Little Grebe *Tachybaptus ruficollis* [A004] • Whooper Swan *Cygnus cygnus* [A038] • Wigeon *Anas Penelope* [A050] • Teal *Anas crecca* A052] • Mallard *Anas platyrhynchos* [A053] • Shoveler *Anas clypeata* [A056] • Tufted Duck *Aythya fuligula* [A061] • Common Scoter *Melanitta nigra* [A065] • Goldeneye *Bucephala clangula* [A067] • Coot *Fulica atra* [A125] • Golden Plover *Pluvialis apricaria* [A140] • Lapwing *Vanellus vanellus* [A142] • Common Tern *Sterna hirundo* [A193] • Wetland and Waterbirds	2.5 Km
Mount Jessop Bog SAC [002202]	Generic Version 9.0 (NPWS, 2022c)	• Degraded raised bogs still capable of natural regeneration [7120] • Bog woodland* [91D0]	3.4 Km

Name	Reference	Qualifying Interests/Special Conservation Interests/Site Synopsis	Approximate Distance from proposed development
Fortwilliam Turlough SAC [000448]	Version 1 (NPWS, 2018)	• Turloughs* [3180]	3.8 Km
Ballykenny-Fisherstown Bog SPA [004101]	Generic Version 9.0 (NPWS, 2022a)	• Greenland White-fronted Goose *Anser albifrons flavirostris* [A395]	4.5 Km
Lough Forbes Complex SAC [001818]	Version 1 (NPWS, 2016c)	• Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150] • Active raised bogs* [9110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150] • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* [91E0]	4.5 Km
Corbo Bog SAC [002349]	Version 1 (NPWS, 2015)	• Active raised bogs* [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]	7.3 Km
Brown Bog SAC [002346]	Version 1 (NPWS, 2016a)	• Active raised bogs* [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]	6.1 Km
Clooneen Bog SAC [002348]	Version 1 (NPWS, 2016b)	• Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150] • Bog woodland* [91D0]	10.7 Km
National sites			
Lough Bawn pNHA [001819]	NPWS (2009h)	Lough Bawn is a relatively small site composed of raised bog, fen, wet and dry woodland and freshwater marsh habitats situated 2km west of Keenagh in Co. Longford. It is the area of fen however that gives this site its primary scientific interest.	0.00 Km
Royal Canal pNHA [002103]	NPWS (2009k)	The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species.	0.00 Km

Name	Reference	Qualifying Interests/Special Conservation Interests/Site Synopsis	Approximate Distance from proposed development
Lough Bannow pNHA [000449]	NPWS (2009g)	Lough Bannow is historically an open water designated site, but surveys from the beginning of the XX century already report drying and vegetation infilling conditions. Nevertheless, even given the proximity of Lough Ree (which itself a designated site), this represents one of the largest terrestrial wetland complexes in the area.	0.1 Km
Lough Ree pNHA [000440]	Coincides with the European site with the same name		2.4 Km
Derry Lough pNHA [001444]	NPWS (2009d)	Derry Lough is a relatively small area of wet grassland, fen, fen woodland and open water situated about 7km north-west of Ballymahon, Co. Longford and about 3km from the shore of Lough Ree. The fen woodland resulting from succession in the future will be a relatively large area of wet semi-natural woodland in an area where such woodland is rare.	2.6 Km
Cordara Turlough pNHA [001821]	NPWS (2009c)	This is a fairly large turlough in the carboniferous limestone area on the east shore of Lough Ree. The main interest of the site now lies in the large numbers of wildfowl and waters that the area can support when wet.	2.6 Km
Mount Jessop Bog NHA [001450]	NPWS (2002f)	The site comprises a raised bog that includes both areas of high bog and cutover bog. Mount Jessop Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland.	3.4 Km
Forthill Bog NHA [001448]	NPWS (2002d)	This site is one of only two raised bogs in this region that have not been developed for commercial peat extraction. This site supports a range of raised bog micro- habitats including pools and flushes and the rare bog moss *Sphagnum fuscum*. This bog, although small and damaged by extensive cutaway, developed on the shores of Lough Ree and is the largest remaining intact bog in the region.	3.8 Km

Name	Reference	Qualifying Interests/Special Conservation Interests/Site Synopsis	Approximate Distance from proposed development
Fortwilliam Turlough pNHA [000448]	Coincides with the European site with the same name		3.8 km
Lough Forbes Complex pNHA [001818]	Coincides with the European site with the same name		4.5 km
Lough Slawn pNHA [001443]	NPWS (2009j)	Lough Slawn is a small lough about 1km from Elfeet Bay, on the shores of Lough Ree, and some 12km south of Lanesborough. The base (Calcium) enrichment and the continuity of responsible management have combined to make this an important site.	5.5 Km
Lisnanarriagh Bog NHA [002072]	NPWS (2002e)	The site comprises a relatively small raised bog that includes both areas of high bog and cutaway. Lisnanarriagh Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland.	7.5 Km
Corbo Bog pNHA [000602]	Coincides with the European site with the same name		7.3 km
Brown Bog pNHA [000442]	Coincides with the European site with the same name		6.1 km
Derrymore Bog pNHA [000447]	NPWS (2009e)	Derrymore, although damaged in the past, remains comparatively intact having escaped wholesale exploitation.	6.7 Km
Derrycanan Bog NHA [000605]	NPWS (2002c)	The site comprises a relatively large raised bog that includes both areas of high bog and cutover bog. The site supports a good diversity of raised bog microhabitats including hummock/hollow complexes, flushes and regenerating cutover.	10.6 Km
Clooneen Bog pNHA [000445]	Coincides with the European site with the same name		10.7
Kilglass And Grange Loughs pNHA [000608]	NPWS (2009f)	Kilglass and Grange Loughs (Roscommon) are a group of lakes in the River Shannon catchment, joined to the main river by a short channel into Lough Boderg 6km west of Dromod, Co. Leitrim. There are	10.4 Km

Name	Reference	Qualifying Interests/Special Conservation Interests/Site Synopsis	Approximate Distance from proposed development
		extensive areas of remote reed-beds. Kilglass Lough has high numbers of varied winter waterfowl, unusual for a relatively small sized, calcareous lake.	
Rinn River NHA [000691]	NPWS (2002g)	The Rinn River flows from Lough Rinn in Co. Leitrim, to Lough Forbes, Co. Longford. Several sections of undrained river meadows, known as callows, between Annaveagh Bridge and Lough Forbes are liable to flood and form the basis of the NHA.	11.4 Km
Carrickglass Demesne pNHA [001822]	NPWS (2009b)	The interest of the site lies in the mixed estate woodland which borders it. Although one area has been planted with conifers, oak (Quercus spp.) is a prevalent tree and some specimens are reported as reaching heights of around 30.5m in this mature woodland.	11.4 Km
Aghnamona Bog NHA [000422]	NPWS (2002a)	Aghnamona Bog NHA is a site of considerable conservation significance, comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. The site supports a good diversity of raised bog microhabitats including hummock/hollow complexes, and there are some pools present.	13.1 Km
Cloonageeher Bog NHA [001423]	NPWS (2002b)	The site comprises a raised bog that includes both areas of high bog and cutover bog, and is one of the most northern remaining raised bogs in Ireland.	13.3 Km
Lough Boderg And Lough Bofin pNHA [001642]	NPWS (2009i)	Lough Boderg/Lough Bofin is a complex of connected Upper Shannon lakes which also includes Lough Scannell. Lough Boderg/Lough Bofin is a complex of Upper Shannon lakes with a long convoluted shoreline containing many areas of wild and typical limestone terrestrial and semi-aquatic shoreline habitats.	14.2 Km

* indicates a priority habitat under the Habitats Directive

8.3 Desktop and Field Surveys

Desk and field-based surveys will be undertaken to gather ecological baseline information in order to fully assess potential effects on ecological features. As noted, a desktop survey encompassing a review of information and literature pertinent to the site of the proposed Derryadd Wind Farm, information pertaining to legislation/designations and other notable ecological records will be completed. This review will include reports on field work and surveys completed to date within the study area.

8.4 Desk Study

The assessment of the flora and fauna will be conducted under the relevant legislation applicable to the Republic of Ireland. These include:

- European Communities (Birds and Natural Habitats) regulations 2011 S.I. 477 of 2011;
- The EIA Directive (2014/52/EU);
- Environmental Liabilities Directive (2004/35/EC);
- The Planning and Development Act 2000;
- The Habitats Directive (92/43/EEC);
- The Birds Directive (2009/147/EC);
- The Water Framework Directive (2000/60/EC);
- The Wildlife Act 1976 (as amended);
- The Flora (Protection) Order 2022 (S.I. No. 356 of 2022);
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, herein referred to as the Habitats Directive;
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds, herein referred to as the Birds Directive;
- The EU Water Framework Directive (2000/60/EC);
- Relevant fisheries legislation up to and including the Inland Fisheries Acts 1959 (as amended);
- Objectives relevant to ecology and biodiversity in the latest County Development Plans of the relevant Counties under the Project; and
- Relevant policies in the National Biodiversity Action Plan 2023 (NPWS, 2023).

8.5 Field Study

The Field study will consist of ecological field surveys to characterise the baseline ecology in terms of general fauna and flora, including:

- Botany and Habitat, in accordance with Fossitt (2000);
- Protected species surveys (e.g. Badger, Common Frog, Otter), as per (NRA, 2009a);
- Bat surveys, as per NaturScot guidance (NaturScot et al., 2019);
- Marsh Fritillary Surveys, as per (NRA, 2009a); and
- Survey for Invasive Alien Plant Species (IAPS), focusing on those listed on the Third Schedule, Part 1, of the European Communities (Birds and Natural Habitats) Regulations 2011, S.I. No. 477/2011.

Botany and Habitat surveys comprising both aerial/satellite imagery evaluations and also field survey for the proposed development area will be required. Focus will be given to the potential for habitats corresponding to Annex I listed habitats on the EU Habitats Directive (1992). Botanical surveys will focus on protected flora listed on Annex II of the EU Habitats Directive (1992) and on the Flora Protection Order (2015), as well as species listed on the Red Data List.

According to the findings of the surveys and overall ecological assessment, the Ecologists will design site appropriate ecological mitigation measures, in agreement with Bord na Móna, to minimise the effect of the proposed development on the ecological environment. These mitigation measures will be detailed within the ecology chapter of the EIAR.

8.6 Natura Impact Statement

European Sites (Natura 2000), i.e. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), are classified under the European Union Birds Directive (2009/147EC) and Habitats Directive (92/43/EEC). The procedures that must be followed when considering developments affecting a Natura 2000 site are specified in Articles 6(3) and 6(4) of Habitats Directive.

A Natura Impact Statement (NIS) will be prepared in tandem with the EIAR and submitted to assess potential effects on the integrity of European sites within the zone of influence of the project. In line with best practice, the NIS will be a separate document to the EIAR.

The NIS will be prepared in accordance with the European Commission guidance document *Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001)* and the Department of the Environment's *Guidance on the Appropriate Assessment of Plans and Projects in Ireland* (December 2009, amended February 2010).

In addition to the guidelines referenced above, the following relevant guidance will be followed:

- DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government;
- European Communities (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission; and
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.

9.0 BIODIVERSITY - ORNITHOLOGY

9.1 Introduction

This section describes the scope of works and methods to be applied in the identification and assessment of effects on ornithology associated with the proposed development.

Potential effects on ornithology from the proposed development will be addressed in line with the requirements of the Environmental Impact Assessment Directive 2011/92/EU as amended by Directive 2014/52/EU and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296/2018), which implements EU Directive 2014/52/EU in planning law. Due regard will be had to published guidelines and best practice including:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022);
- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011), as amended. With particular reference to the Third Schedule of the European Communities Regulations 2011 (S.I. No. 477 of 2011) which deals with invasive species;
- The Planning and Development Act 2000 (as amended).
- The Birds Directive (2009/147/EC) (as amended);
- The Wildlife Acts 1976 (as amended), herein referred to as the Wildlife Acts;
- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2022);
- NaturScot (2000; 2009, 2016, 2017, 2018a, 2018b);
- Scotland's Nature Agency (2018);
- Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the Republic of Ireland (Mc Guinness *et al.*, 2015);
- Department of Housing, Planning and Local Government Wind Energy Development Guidelines (2006), and as amended by the Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government, 2019);
- Best Practice Guidelines for the Irish Wind Energy Industry (Fehily Timoney & Company, 2012).

To date, a significant amount of information has been gathered on the ornithology of the study area and surrounding through desktop studies and field surveys undertaken at the site. This information, in conjunction with ongoing baseline survey work, will be reviewed and used to inform the design of the wind farm layout and the Environmental Impact Assessment. Reports and observations on historical surveys for the wider Derryadd bog area will be reviewed for information purposes.

9.2 Sensitive Receptor Species

The information gathered during baseline surveys with regards sensitive receptor species will be used to inform/refine the breeding, migratory, and wintering bird survey effort and will comply with NaturScot (2018) recommended bird survey methods, in particular the requirement for a minimum of two years of surveys to allow for variation in bird use between years. Bird surveys will cover the breeding and winter seasons and will focus on species listed on Annex I of the EU Birds Directive, as well as Birds of Conservation Concern in Ireland (BOCCI) and Red Listed species occurring within the study area and the wider zone of influence of the proposed development.

9.3 Desktop and Field Surveys

9.3.1 Desktop Study

Desktop surveys will be carried out, and the results will be used to inform field survey design. The results of the desktop study will be supplemented with additional field survey information to support the development of the environmental impact assessment. The primary data sources for the desktop surveys will include:

- National Biodiversity Data Centre records[1];
- National Hen Harrier survey data[2];
- Irish Wetland Bird Survey site coverage information[3];

[1] Available at https://biodiversityireland.ie/. Accessed in October 2024.

[2] Available at http://www.irishhenharriersurvey.com/. Accessed in October 2024.

[3] Available at https://birdwatchireland.ie/our-work/surveys-research/research-surveys/irish-wetland-bird-survey/. Accessed in October 2024.

- NPWS designated area boundary data[4];
- NPWS site-specific conservation objectives maps[5];
- Ordnance Survey Ireland 6-inch historical raster mapping, 1:50,000 Discovery mapping, and vector data;
- Historical ornithological data published in other grey literature; and
- Aerial photography.

9.3.2 Field Surveys

Bird survey work will be compliant with NaturScot (2018) guidelines. A number of breeding, migratory, and wintering bird surveys are underway and include:

- Vantage Point Surveys – These surveys comprise a series of watches from a fixed location to quantify the flight activity of birds at a proposed development site, which provides data to estimate the collision risk. Eleven (11) Vantage Points are strategically positioned to provide a maximum view shed of the survey area from a minimum number of locations. The surveyed area will include the entire wind farm envelope where turbines will be positioned and will extend to a 500 m radius from the proposed site boundary. The view shed of a given Vantage Point will extend to a distance of no greater than 2 km and include an arc of no greater than 180 degrees (NaturScot, 2018);
- Transect Surveys – Transect surveys follow a defined linear route through a specific area. To achieve maximum coverage of suitable habitat, twenty-one (21) routes are considered were selected. All areas of suitable habitat will be surveyed on site and to a 500 m radius from the planning/development boundary (NaturScot, 2018). Transect surveys will be walked at a standard speed, and notes on aural and visual registrations of bird species will be recorded during field surveys;
- Raptor Surveys – A breeding raptors within a 2km buffer zone around the proposed development site will be surveyed. This survey involves checking any suitable areas of

[4] Available at https://www.npws.ie/protected-sites. Accessed in October 2024.

[5] Available at https://www.npws.ie/maps-and-data. Accessed in October 2024.

habitat within the 2 km zone for breeding raptors once a month, from April-July (Hardey et al., 2009);

- Hen Harrier Roost Surveys – Hen Harrier Roost Surveys will be conducted where suitable roosting habitats are found onsite, or within the wider surroundings of the proposed development area. Hen Harrier Roost Survey methods will follow those set out by Gilbert et al. (1998) and were in accordance with the NPWS National Winter Hen Harrier Roost Survey recommendations (Ruddock et al., 2016). Surveyors will be in place an hour and a half before sunset and will record all observations of Hen Harrier until last visible light. Information recorded by surveyors from the Vantage Points will include: the number of Hen Harrier entering a roost, the time, age, and sex, where possible;

- Woodcock Surveys – The NaturScot guidance (2018) does not specify any survey requirements for Woodcock. However, this species is red-listed for its breeding population (Gilbert, Stanbury and Lewis, 2021) and specific Woodcock surveys are now standard practice in Irish wind farm assessments. Woodcock surveys require three dusk surveys to census roding males from May to July (adopted from British Trust for Ornithology, 2013). This type of survey will also pick up Owls using the site and other possible nocturnal species such as Nightjar;

- Merlin Surveys – A breeding Merlin survey within the 2 km buffer zone around the proposed development site will be required. The survey method involves four visits between late March and August (adapted from Lusby et al., 2011). Searches for Merlin signs (droppings, pellets, plucked prey) and sightings are used to establish occupancy and these need to pass within 500 m of potential nesting habitat, and within 100 m of plantation boundaries, etc. Targeted VP watches are then used to locate nest sites;

- Waders Surveys – Monthly counts or bimonthly counts will be conducted at wetland water bird sites during daylight hours (ideally at dawn or before dusk) from suitable vantage points using binoculars and/ or telescope as required. Information collected will include, numbers of wildfowl or wader species, the presence of marked birds (leg-ringed or neck-collared), weather conditions and habitat types. Survey methodology will follow the BirdWatch Ireland (2008), where the area surveyed will include the hinterland of the site to a 5 km radius from the planning/ development boundary;

- Moorland Breeding Bird Surveys – These will cover all open areas of wet grassland and rough grassland habitats within the 500 m buffer zone of the proposed development

area. This survey method involves dividing the survey area into quadrats, with timed visits to each quadrat from one hour after dawn ensuring all parts of each quadrat are approached to within 100 m. Cold, wet and windy conditions (do not survey when the wind exceeds force 4) will be avoided. The latest version of the NaturScot guidance (2018) now requires four survey visits, with each visit at least two weeks apart from early April to June. July visits to assess fledging success are not required if no target species are observed on prior visits. This methodology will detect the presence of any breeding Golden Plover or Dunlin and will also pick up any breeding Ringed Plover, Snipe or Greenshank, which are all endangered Irish breeding species.

The need for additional survey work to address any information gaps will be reviewed on an ongoing basis.

10.0 LAND, SOILS AND GEOLOGY

10.1 Introduction

The principal objective of this Chapter of the EIAR will be to identify and mitigate any potential effects of the proposed development on Land, Soils and Geology.

A desk study will be undertaken to acquire all available topographic, geological, geotechnical data (including geotechnical and site stability data) for the proposed development site and surrounding area.

The assessment of soil and geological environment will be conducted with consideration of the relevant legislation and guidance including:

- Department of Housing, Planning and Local Government Wind Energy Development Guidelines (2006), and as amended by the Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government, 2019);
- Groundwater Directives (80/68/EEC) and (2006/118/EC);
- Environmental Impact Assessment of National Road Schemes – A Practical Guide (NRA 2008a);
- Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA 2008b);
- Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements (IGI, 2013);
- Peat Landslide Hazard and Risk Assessments, Best Practice Guide for Proposed Electricity Generation Developments - Second Edition (Natural Scotland, Scottish Executive, 2017);
- Review of Wind Energy Development Guidelines "Preferred Draft Approach" (Department of Housing, Planning, Community and Local Government, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. (Environmental Protection Agency, 2022).

10.2 Sensitive Receptors

There are no known geological sensitive features within the site boundary. All data will be reviewed as further data is collected. Historical data collected for the EIA for the previous application will be used for the assessment as well as data gathered by Bord na Mona. Remnant Peat banks/high bog is considered a sensitive receptor and due regard will be taken in relation to high bog areas and nearby NHAs.

10.3 Desktop and Field Survey

Consultation will be undertaken, and feedback requested from a number of statutory bodies as detailed in Appendix A.

Scoping of geotechnical aspects of the EIA for peat sites will be agreed in conjunction with the multidisciplinary team, including but not limited to Geotechnical Engineer, Hydrogeologist, Hydrologist, Ecologist and the requirements of any and all of the design team as necessary e.g. Engineering designers deciding on access route types and construction methodologies.

The evaluation will include:

- Previous EIAR;
- Previous site investigation data;
- Topography and existing peat depth data for the site;
- Site walkover surveys conducted during 2022;
- Desk study of soils, subsoils, bedrock, geological maps and aerial photography;
- Geomorphology assessment and mapping will be undertaken of geomorphological features;
- Site Investigation works will be specified in conjunction with the requirements of the designers. The site investigation will provide detail on soils, geology, peat types and depths and potential requirements for water management and drainage. Investigations may include:
    - Trial pitting;
    - Cobra Probes;
    - In-situ Standard Penetration Test (SPT) testing and sampling; and
    - Ground Water Monitoring Installation.
- The nature and requirements of the potential peat management will be informed by the information from the site investigation, site surveys and visits and the evaluations undertaken by the multi-disciplinary team;
- Development of Geotechnical Risk register;
- Design of appropriate erosion and sediment control measures; development of erosion and sediment control procedures for implementation on site;
- Conduct preliminary geotechnical site investigations to inform the following:
    - Identify the depth of peat and any required specialist peat parameters e.g. shear vane strength etc;
    - Access routes construction methodology;
    - Cable route construction methodology;

  - Foundation construction methodology;
  - Borrow Pits potential;
  - Earthworks and Material Balance calculations (rock won on site in relation to rock fill required during construction of roads, hardstands, crane pads etc.);
  - Peat Management Works;
  - Groundwater management, as required;
  - Drainage Design;
  - Overburden (Soils/Peat) Storage and management;
  - Temporary works design; and
  - Geohazard Mapping and Risk Assessment.
- Interpretation and reporting of all geological and geotechnical data with reference to data within the Geotechnical and Soil Stability Report, addressing peat stability; and
- Peat and Spoil Management Plan.

A geotechnical risk assessment will be prepared to identify and mitigate potential issues that may arise during the construction stage (including geohazard and geomorphology features) and will be included as an Appendix in Volume C of the EIAR.

11.0 HYDROLOGY AND HYDROGEOLOGY

11.1 Introduction

The principal objective of this chapter of the EIAR will be to identify and mitigate any potential issues associated with the proposed development to ensure that the effect on surface waters and groundwaters are minimised. A desk study shall be undertaken to acquire all available topographic, geological and hydrogeological data for the proposed development site and surrounding area.

As part of this assessment, TOBIN will establish baseline/existing hydrological and hydrogeology conditions, identify potential effects and propose appropriate mitigation measures. The following will also be carried out:

- Identify the existing surface water drainage characteristics of the site (including any natural or man-made drainage). A surface water feature survey/catchment assessment of the study area will be carried out to record all streams, rivers and lakes within the site boundary and surrounding area;
- Establish baseline water quality across the site. Any historical EIAR/IPC licence water quality will be reviewed, and existing EPA water quality data will also be examined as part of the study including any available data relating to the river catchments in this area. Where required, surface water samples will be collected in order to provide a baseline set of water quality results for the area. Biological assessments of the rivers will also be carried out; and
- Identify potential downstream receptors which may include for designated conservation sites and water supplies. Establish any hydrological connectivity between the site and the receptor through specified pathways.

The potential for siltation as a result of the proposed development, will be assessed particularly during the construction phase and mitigation measures will be proposed for associated pollution control. Any existing siltation management practices will be reviewed as part of this assessment.

11.2 Sensitive Receptors

No Natura 2000 sites are identified within the proposed development site. A number of pNHAs are located near the eastern boundary of the site. Two Natura European site, Lough Ree SAC and Lough Ree SPA) lie 2.4 and 2.5 km respectively to the west of the development site. There

are also areas of remnant high bog potential Annex 1 Habitats present within the site, along the eastern boundary i.e. Lough Bawn pNHA.

11.3 Desktop and Field Surveys

Consultation will be undertaken and feedback requested from a number of statutory bodies as detailed in Appendix A.

In addition, scoping of geotechnical aspects of the EIA for peat sites will be agreed in conjunction with the multidisciplinary team, including but not limited to Geotechnical Engineer, Hydrogeologist, Hydrologist, Ecologist and the requirements of any and all of the design team as necessary e.g. Engineering designers deciding on access route types and construction methodologies.

The evaluation will include:

- Desk study of soils, subsoils, bedrock, geological, groundwater vulnerability, groundwater recharge, groundwater resources maps and aerial photography;
- Aquifer assessment, in terms of the underlying aquifer and shallow groundwater system within the peat;
- Assessment of effects on water schemes/ water supplies within 2km radius;
- Surface water and groundwater interaction (if existent);
- Site Investigation works will be specified in conjunction with the requirements of the designers and undertaken during the summer period of 2020. The site investigation will provide detail on soils, geology, peat types and depths and potential requirements for water management and drainage. Investigations may include:
    - Trial pitting;
    - Cobra Probes;
    - Ground Water Monitoring of previously installed wells.
- The nature and requirements of the potential peat management in terms of subsurface flows will be informed by the information from the site investigation, site surveys and visits and the evaluations undertaken by the multi-disciplinary team;
- Design and installation of monitoring wells and piezometers;
- Interpretation and reporting of all geological and hydrogeological data collected from preliminary geotechnical site investigations will be used to build a robust conceptual site model.

11.4 Water Quality Assessment

A water quality assessment will be carried out which will include the following:

- Conduct surface water sampling in accordance with industry standards;
- Interpret and identify surface and groundwater linkages through specific water quality parameters;
- Establish baseline/existing conditions, identify potential effects and propose appropriate mitigation measures.
- Update hydrological model - see Section 12.3.

11.5 Flood Risk Assessment (FRA)

A site-specific Flood Risk Assessment will be prepared for the proposed development. There are no recorded flood events for the proposed development site. The 2021 National Indicative Fluvial Maps (NIFM) will be reviewed based on site specific data and the proposed pumping regime, potential extreme flood events will be reviewed based on the updated flood maps. Although the risk of fluvial flooding (rivers and streams) is low, the risk of pluvial flooding from new hard-stand areas and infrastructure will be considered. Baseline information will be required on any pumping or level changes since completion of any previous assessments.

The Flood Risk Assessment will be completed for the overall site and detailed within the EIAR. This assessment shall include undertaking the following tasks:

- A visual Inspection of site and watercourses by the project hydrologist;
- Site Topographical Survey;
- Site survey of watercourses for hydraulic modelling;
- A review of existing information and planning guidelines;
- An assessment of historical flooding;
- Estimation of the 100 and 1000 MRFS (Mid-Range Future Scenario) design flood events at the proposed Wind Farm site, as recommended by 'The Planning System and Flood Risk Management Guidelines' (OPW, 2009). The hydrological assessment of the site may include:
    - Statistical estimation of design flood flow from available hydrometric data;
    - Analysis of watercourses using the OPW's Flood Studies Update Portal; and
    - Estimation of design flood flow from catchment descriptors and rainfall.
- Hydraulic Modelling, using HEC-RAS or similar, of watercourses for the 100- and 1000-year design flood events. Where possible, the model shall be calibrated against historical

and gauged flow data if available from the OPW and EPA hydrometric station network in the vicinity of the site;

- Modelling and assessment of flood risk solution proposed by the design team; and
- Floodplain Mapping for the 100 and 1000-year MRFS design flood events for the watercourses.

12.0 AIR QUALITY

12.1 Introduction

The purpose of this section of the Scoping Report is to describe the scope of work and methods to be applied in the identification and assessment of air quality effects associated with the proposed Derryadd Wind Farm. A high-level overview of the baseline conditions is included, together with a review of relevant sensitive receptors, policy and the study area.

The development of renewable energy is identified as having the potential to be a clean form of energy production and as such to have a potential net beneficial effect on the Air Quality environment.

12.2 Policy and Plan Context

In order to reduce the risk to health from poor air quality, National and European statutory bodies have set limit values in ambient air for a range of air pollutants. These limit values or "Air Quality Standards" are health or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit value which is set. The assessment of air quality will be conducted with consideration of the relevant legislation and guidance including:

- Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC);
- European Union Directive on air quality assessment and management (96/62/EC) and the associated "daughter Directives", which set the Limit Values;
- Air Quality Standards Regulations 2011 (S.I. 180 of 2011), which incorporates European Commission Directive 2008/50/EC which has set limit values for the pollutants sulphur dioxide (SO2), nitrogen dioxide (NO2), particulate matter (PM10), benzene and carbon monoxide (CO);
- Air Pollution Act 1987 (No. 6 of 1987);
- Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (2024);
- UK Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 LA 105 Air quality HA 207/07 Air Quality (UK Highways Agency 2019);
- Guidelines for the Treatment of Air Quality during the Planning and Construction of National Road Schemes (TII 2011);

- Guidance on the Assessment of Dust from Demolition and Construction V1. (IAQM, 2016);
- A Guide to The Assessment of Air Quality Impacts on Designated Nature Conservation Sites (Version 1.1) (IAQM, 2020);
- German VDI (2002) Technical Guidelines on Air Quality Control – TA Luft;
- Guidelines for Assessment of Ecological Impacts of National Roads Schemes (hereafter referred to as the 'TII Ecological Guidelines') (TII, 2009);
- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- United Kingdom (UK) Department of Environment Food and Rural Affairs (DEFRA) Part IV of the Environment Act 1995: Local Air Quality Management Policy Guidance (PG16) (hereafter referred to as LAQM (PG16)) (DEFRA, 2016);
- Part IV of the Environment Act 1995: Local Air Quality Management Technical Guidance (TG16) (hereafter referred to as LAQM (TG16)) (DEFRA, 2018);
- UK Highways Agency (Highways England) Design Manual for Roads and Bridges (DMRB) – LA 105 Air Quality (hereafter referred to as 'LA 105 Air Quality') (Highways England, 2024);
- World Health Organization (WHO) Air Quality Guidelines for Particulate Matter, Ozone, Nitrogen Dioxide and Sulphur Dioxide Global (Update 2021) (hereafter referred to as the 'WHO Air Quality Guidelines') (WHO, 2021);
- Local Authority air quality and planning guidance; and
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022).

12.3 Construction Phase Study Area

The construction phase study area will focus on the potential for effects arising from dust. These effects usually occur within 350 m of the dust generating activity as dust particles fall out of suspension in the air. Dust effects may arise during the construction phase due to material handling activities, including excavation and backfill. Deposition typically occurs in close proximity to each site and therefore the study area will be limited to a 350 m radius from any dust generating activities and up to 500 m along haul routes from the site entrance.

The study area with respect to effects on air quality due to emissions from vehicle and HGV movements will be limited to sensitive receptors less than 200 m from road links which are affected by significant changes in traffic volume (i.e. above 5%), including internal roads in the

vicinity of Designated Sites. This study area is the same for designated areas of conservation (either Irish or European designation) with respect to ecology as the potential effect is highest within 200 m of the road links and when significant changes in AADT (>5%) occur.

Due to the nature of climatic effects, if significant emissions occur, they will have the potential to affect Ireland's commitments and targets under various EU Climate Agreements and other international agreements. Therefore, the study area can be classed as Ireland.

12.4 Sensitive Receptors

The assessment will take account of sensitive receptors relevant to the proposed development. Sensitive receptors include locations where people spend significant periods of time, such as domestic properties. Ecological receptors are habitats that might be sensitive to dust. Examples of these sensitive receptors include:

- Residential dwellings;
- Industrial or commercial uses sensitive to dust;
- Recreational areas and sports grounds;
- Schools and other educational establishments;
- Buildings of religious sensitivity;
- Hospitals and nursing homes;
- Offices or Shops; and
- Designated ecological area of conservation (either Irish or European designation).

Due to the location of the site, the receptors with the greatest potential effects are considered to be ecological designated sites.

12.5 Desktop and Field Survey

A desktop review of available baseline air quality data within the study area will be undertaken. Assessment criteria for the effect of dust during the construction, operation and decommissioning phases shall be based on *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022),* and as set out in the Transport Infrastructure Ireland (TII) Climate Action Roadmap (2022) and the Institute of Air Quality Management (IAQM) guidelines (IAQM 2024). These are used to assess the effect of dust emissions from construction and demolition activities based on the scale and nature of the works and the sensitivity of the area to effects of dust .

The following data sources will be referred to during the air quality assessment:

- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022);
- Environmental Protection Agency – National Ambient Air Quality Monitoring Data Archive;
- Environmental Protection Agency – Air Quality in Ireland 2020 and previous reports (1997 – 2022 as required);
- National Parks and Wildlife Service Maps; and
- Environmental Protection Agency – Integrated Pollution Control Licences.

Air quality monitoring programs have been undertaken in recent years by the EPA and Local Authorities. The most recent annual report on air quality *Air Quality Monitoring Annual Report 2023 (EPA 2024),* details the range and scope of monitoring undertaken throughout Ireland. Data from these monitoring programmes and reports will be considered as part of the Air Quality assessment of effects.

12.6 Consultation

Consultation is important in order to ensure that a sufficiently robust environmental baseline is established for the proposed development and its surroundings. It helps to identify specific concerns and issues relating to air quality early in the process. In addition, consultation will be carried out with relevant stakeholders as part of the EIA process, listed in Appendix A.

13.0 CLIMATE

13.1 Introduction

The purpose of this section of the Scoping Report is to describe the scope of work and methods to be applied in the identification and assessment of likely effects associated with the proposed Derryadd Wind Farm. A high-level overview of the baseline conditions is included, together with a review of relevant sensitive receptors, policy and the study area.

The development of renewable energy is identified as having the potential to be a clean form of energy production and as such to have a potential net beneficial effect on the Air Quality environment.

13.2 Policy and Plan Context

In order to reduce the risk due to climate change, National and European statutory bodies have set targets for future greenhouse gas (GHG) emissions. Ireland has signed up to several climate agreements including the EU 2030 Climate and Energy Policy Framework (EC 2014) which aims to reduce GHG emissions by 40% compared with 1990 levels by 2030. The Climate Action Plan 2024 (Government of Ireland 2023), designed to help Ireland achieve these targets, specifically targets delivery of 80% renewable electricity by 2030. The assessment of climate will be conducted with consideration of the relevant legislation and guidance including:

- European Commission (EC) (2014) 2030 Climate and Energy Policy Framework;
- Climate Action and Low Carbon Development Act (2021);
- DECC (2015) Climate Action and Low Carbon Development – National Policy Position Ireland;
- DECC (2017) National Mitigation Plan: July 2017;
- Climate Action Plan 2024 (hereafter referred to as the CAP) (DECC 2023);
- IAQM Guidance on the Assessment of Dust from Demolition and Construction (2024);
- Department of Transport – Climate Change Sectoral Adaptation Plan (DOT, 2019);
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013);
- General Scheme of the Climate Action (Amendment) Bill 2020 (hereafter referred to as the General Scheme) (DECC, 2021);
- Transport Infrastructure Ireland (TII) Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes (TII, 2011);

- Design Manual for Roads and Bridges (DMRB): LA 114 – Climate (Highways England, 2021);
- Institute of Environmental Management & Assessment (IEMA) Assessing GHG Emissions and Evaluating their Significance (IEMA, 2022);
- IEMA EIA Guide to: Climate Change Resilience and Adaptation (IEMA, 2020a);
- IEMA GHG Management Hierarchy (IEMA, 2020b);
- Technical guidance on the climate proofing of infrastructure in the period 2021-2027 (European Commission, 2021a);
- Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change (European Commission, 2021b);
- Local Authority's climate and planning guidance; and
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022).

13.3 Desktop and Field Survey

The climate assessment of effects will consider the targets and objectives of the *Climate Action Plan 2024* and how the project will contribute to achieving these targets. The assessment will also consider the direct and indirect effects of the project on climate change in the context of carbon emissions arising from the development and will examine the carbon balance of the proposed development.

13.4 Conclusion

Consultation is important in order to ensure that a sufficiently robust environmental baseline is established for the proposed development and its surroundings. It helps to identify specific concerns and issues relating to climate early in the process. In addition, consultation will be carried out with relevant stakeholders as part of the EIA process, listed in Appendix A

14.0 MAJOR ACCIDENTS AND NATURAL DISASTERS

14.1 Introduction

This EIAR chapter will assess the potential significant adverse impacts of the proposed development deriving from its vulnerability to risk of Major Accidents and/or Natural Disasters, as well as the potential of the proposed development itself to cause potential Major Accidents and/or Natural Disasters during the construction, operation and decommissioning phases.

The assessment will be carried out in compliance with the European Union (EU) Directive 2011/92/EU (as amended by Directive 2014/52/EU)(the EIA Directive),

The structure and assessment methodology of this chapter will be guided by the Institute of Environmental Management and Assessment (IEMA) 'Major Accidents and Disasters in EIA: A Primer' guidance (IEMA, September 2020). The IEMA guidance defines the likely significant effects (in relation to a major accidents and/or disasters assessment) as something that:

'...could include the loss of life, permanent injury and temporary or permanent destruction of an environmental receptor which cannot be restored through minor clean-up and restoration.'

14.2 Plan and Policy Context

The principal guidance and best practice documents used to inform the assessment of risk of major accidents and/or disasters are summarised below.

- Department of Environment, Heritage and Local Government (DoEHLG) (2010); A Guide to Risk Assessment in Major Emergency Management;
- IEMA 2020 – Major Accidents and Disasters in EIA: A Primer;
- Environmental Protection Agency (EPA), (May 2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the EPA Guidelines);
- Department of Environment, Community and Local Government (DECLG), (August 2018); Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment);
- European Commission (EC), (2017); Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report; and
- EPA, (2003 Advice Notes on Current Practice in the Preparation of Environmental Impact Statements).

It is noted that the EPA Guidelines elaborate on risk assessment further from the EIA Directive under Section 3.7.3 and state the following:

'To address unforeseen or unplanned effects the Directive further requires that the EIAR takes account of the vulnerability of the project to risk of major accidents and/or disasters relevant to

the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and/or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk)'.

14.3 Methodology

The impact assessment methodology is risk based and focuses on unplanned events with a low likelihood but a high risk/consequence such as fire, major spill or explosions. There are three stages involved in determining such events as outlined in the Major Accidents and Disasters in EIA: A Primer guidance (IEMA, September 2020):

- Stage 1: Screening – identifies potential unplanned risk events that the CWP Project may be vulnerable to or that may occur due to the CWP Project;
- Stage 2: Classification - Following the initial identification and screening process, major accidents and/or disasters were evaluated with regard to the likelihood of occurrence and the potential impact; and
- Stage 3: Assessment – This stage provides a greater understanding of the likelihood and consequence of events that have been carried forward into the EIA and defines a post mitigation risk score in accordance with the DoEHLG's (2010) guidelines.

14.4 Conclusion

This chapter will assess the potential environmental impacts on risk of major accidents and disasters from the construction, operation and maintenance and decommissioning phases of the proposed development. Where significant impacts have been identified, additional mitigation will be considered and incorporated into the assessment.

15.0 NOISE AND VIBRATION

15.1 Introduction

The Noise and Vibration chapter of the EIAR will assess the potential effects of the proposed development on sensitive receptors in the surrounding environment during the construction, operational and decommissioning phases. The principal objectives of the Noise and Vibration assessment will be to specify appropriate limit values and mitigation measures to ensure that the specific limits can be achieved and to minimise effect on the noise sensitive receptors where possible.

The assessment of wind turbine noise will be undertaken with reference to the most appropriate guidance documents relating to environmental noise and vibration, such as the Institute of Acoustics (IOA) publication, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, May 2013, and the Wind Energy Development Guidelines 2006 or more recent revision (if applicable).

In addition to these specific guidance documents for the assessment of noise and vibration, Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (EPA, May 2022) will be followed when preparing the EIAR chapter.

15.2 Construction/Operational Phase Study Area

The study area for the operational phase will cover at least the area predicted to exceed 35 dB L_{A90} when all existing and proposed turbines are at their maximum output noise level and will include all identified Noise Sensitive Locations (NSLs) that are within this area.

For the construction phase, properties within 500 m of the proposed construction activities or the nearest NSL if greater than 500 m will be considered in the assessment.

15.3 Background Noise Survey

A background noise monitoring survey will be completed at ten NSL's in the vicinity of the proposed development site and within the defined study area.

All measurements will be conducted in accordance with the IOA document "A Good Practice Guide to the Application of ETSU-R-97 for The Assessment and Rating of Wind Turbine Noise" (IOA GPG) and the associated supplementary guidance notes.

The results of the background noise survey will be used to identify appropriate noise criteria for the various phases of the proposed development with reference to the appropriate guidance documents. Reference will also be made to previous measured background noise survey data undertaken as part of the noise and vibration assessment for the Derryadd Wind Farm in 2017.

15.4 Assessment of Effects

The noise survey work will characterise the existing noise environment in the area and facilitate the quantification of potential noise effects which may arise from the proposed development. The potential noise and vibration effects will be considered for the following phases:

- Construction Phase;
- Operational Phase; and
- Decommissioning Phase.

A cumulative assessment that includes existing and consented wind farms, and other relevant developments, will be undertaken in accordance with best practice guidance.

15.4.1 Construction Phase

Typical construction noise levels associated with various elements of the proposed development will be predicted at the facades of the closest noise-sensitive locations in the vicinity of the development through calculations. All noise prediction calculation will be conducted in accordance with the guidance contained in ISO 9613:1996: Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation. Source noise levels will be obtained from BS 5228 2009 +A1 2014 Code of practice for noise and vibration control on construction and open sites.

Vibration during construction will also be considered regarding the potential effect of residential amenity and potential structural damage to buildings.

15.4.2 Operational Phase

Noise levels at all the identified noise sensitive locations will be predicted using a proprietary noise modelling package. All predictions will be done in accordance with ISO 9613: Acoustics – Attenuation of Sound Outdoors, Part 2: General Method of Calculation, (ISO, 1996) using the recommended calculation settings outlined in the IOA GPG. The use of a computer-based noise model lends itself to ongoing evaluation of design changes and provides output that is detailed and extensive. Noise contour maps will be generated for the site noise models illustrating turbine noise levels in the study area.

The results obtained from the prediction calculations will be used to assess the likely effects of noise from the operation of the proposed turbines, substation and battery facility. This will include the assessments at various noise sensitive locations with consideration of various wind speeds and direction. Where necessary, noise control measures will be considered. Discussion of other issues will be undertaken where appropriate (e.g., tonality, low frequency noise/Infrasound, amplitude modulation etc.).

The potential noise effects associated with road traffic movements and other ancillary parts of the development including the substation and any other permanent source of noise will be assessed and included as part of the noise chapter.

16.0 SHADOW FLICKER

16.1 Introduction

The purpose of the Shadow Flicker assessment will be to assess the potential effects of the proposed wind farm on sensitive receptors in the surrounding environment.

16.2 Sensitive Receptors

The envelope within which sensitive receptors will be evaluated will be determined by the size, scale and layout of the final wind farm. The current Wind Energy Guidelines (2006) outline that at distances greater than ten rotor diameters from a turbine, the potential for shadow flicker is very low.

The Draft Revised Wind Energy Guidelines (December 2019) state that:

Generally only properties within 130 degrees either side of north, relative to the turbines, can be affected at these latitudes in the UK and Ireland- turbines do not cast long shadows on their southern side.

The assessment will initially consider all sensitive receptors within 1.5 km of the proposed turbines. This will be revised as necessary to identify all potential receptors.

16.3 Desktop Survey

The extent and effect of Shadow Cast Analysis and Shadow Flicker depends on the relative positions and orientation of nearby houses and wind turbines, the presence of windows facing on to the proposed wind farm, the absence/presence of vegetation or other obstructions between the houses and the wind farm etc. This will be assessed as part of the EIA.

The shadow flicker assessment will be carried out in accordance with the guidelines set out in the 2006 Wind Energy Guidelines. Consideration will also be given to the Draft Revised Wind Energy Guidelines (December 2019) and relevant UK guidance including "Update of UK Shadow Flicker Evidence Base" carried out by Parsons Brinckerhoff in 2011.

WindPRO Computer Modelling software will be used for this element of the assessment through the use of the shadow module. This facilitates calculation and documentation of flickering effects in terms of hours per year during which a specific receptor or an area would be exposed to flickering from nearby turbine rotors.

For each receptor identified, maximum minutes of potential shadow flicker per day are calculated. The software can calculate the worst-case results (sun always shining in daytime, turbines always rotating and wind direction "worst case") or the "real expected values", based

on assumptions on solar statistics and operating hours divided by wind direction. Typically, calculations are made in a worst-case scenario assuming that each sensitive receptor location has windows on all sides (i.e. glasshouse effect) but can also allow for user defined windows on properties.

Results will be presented in the form of calendars, cumulated hours with flicker or, for the area calculation, as maps of flicker hour isolines.

Cumulative effects of shadow flicker from existing operational or consented wind farms will also be included in the assessment. The configuration of existing or consented wind farms can be added to the model and is particularly relevant to consider properties which may experience low levels of shadow flicker from one or more wind farms on their own but may be significantly affected by adjacent wind farms.

17.0 LANDSCAPE AND VISUAL

17.1 Introduction

The purpose of this section of the Scoping Report is to describe the scope of work and methods to be applied in the identification and assessment of landscape and visual effects associated with the Derryadd Wind Farm.

The following data sources will be referred to during the air quality assessment:

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022);
- Guidelines for Landscape & Visual Impact Assessments (3rd Ed.) (Landscape Institute, 2013) with reference to Technical Guidance Note LITGN-2024-01 Published August 2024; and
- Department of Housing, Planning and Local Government Wind Energy Development Guidelines (2006), and as amended by the Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government, 2019);

17.2 Study Area

Following a detailed review of the study area, the County Development Plans for Counties Longford, Westmeath, Roscommon and Leitrim will be reviewed to inform the EIA in the context of the Landscape policies of those local authorities.

The Wind Energy Development Guidelines published by the Department of the Environment, Heritage and Local Government (2006) specify different radii for examining the Zone of Theoretical Visibility (ZTV) of proposed wind farm projects. The extent of this study area is influenced by turbine height as follows:

- 10km radius for blade tips up to 100 m;
- 20 km radius for blade tips greater than 100 m; and
- 25 km in order to incorporate features of national or international renown.

In the case of this proposed development, the blade tips will be over 100m high and, thus, the minimum ZTV radius required is 20 km from the outermost turbines of the proposed development. It is not considered that there are any features of 'national or international renown' between 20 km and 25 km of the site and thus, the study area will remain at a consistent 20 km radius from the proposed turbines.

17.3 Sensitive Receptors

Sensitive landscape and visual receptors will be identified during baseline studies and fieldwork and will consist of both designated (highly sensitive landscape zoning / scenic views in the CDP) and non-designated receptors. Visual receptors will be selected from the following categories:

- Designated scenic routes / views (CDP);
- Local Community views (roads and residences within approximately 5km);
- Centres of Population;
- Major Transport Routes; and
- Amenity, Heritage and Tourism locations.

All dwellings have a degree of sensitivity to visual change and the Draft Revised Wind Energy Guidelines advise *'...a setback distance for visual amenity purposes of 4 times the tip height should apply between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres.'*

17.4 Survey Methods

17.4.1Desktop Study

A Landscape Character Assessment (LCA) of the study area/receiving environment will be prepared in accordance with standardised methods (Landscape Institute Guidelines for Landscape & Visual Impact Assessments (3rd Ed.) 2013 with reference to Technical Guidance Note LITGN-2024-01 Published August 2024), and DECCH approved methodologies including desktop reviews and site visits and preparation of reports.

The desktop study will comprise of the following:

- Prepare and review the Zone of Theoretical Visibility (ZTV) maps, which indicate areas from which the development is potentially visible in relation to terrain within the Study Area;
- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations;
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity;
- Preparation of an initial VRP selection report and associated map for consultation purposes (Planning Authorities).

17.4.2Field Survey

Fieldwork will consist of:

- Route Screening Analysis;
- Select a refined set of VRPs for assessment;
- Record a description of the landscape elements and characteristics within the Study Area generally and also within view from each VRP; and,
- Capture high quality base photography from which to prepare photomontages of the proposal.

17.5 Assessment of Effects

In accordance with the Guidelines for Landscape and Visual Impact Assessment (GLVIA3), Third Edition, 2013, the method for estimating the significance of landscape effects and visual effects is very similar.

The assessment of landscape effects involves establishing the landscape baseline. This includes consideration of the geographic location and landscape context of the proposed wind farm site as well as the essential landscape character and salient features of the wider Study Area and is discussed with respect to landform and drainage and also vegetation and land use. The visual baseline is more population based, but still overlaps with elements of the landscape baseline. The visual baseline is discussed in relation to, centres of population and houses, transport routes, public amenities and facilities. Once the baseline environment is established an assessment of the potential significant effects associated with the proposed development will be carried out. In accordance with the Guidelines for Landscape and Visual Impact Assessment (2013), the method for estimating the significance of landscape effects and visual effects is very similar. This methodology is summarised in the diagram below;

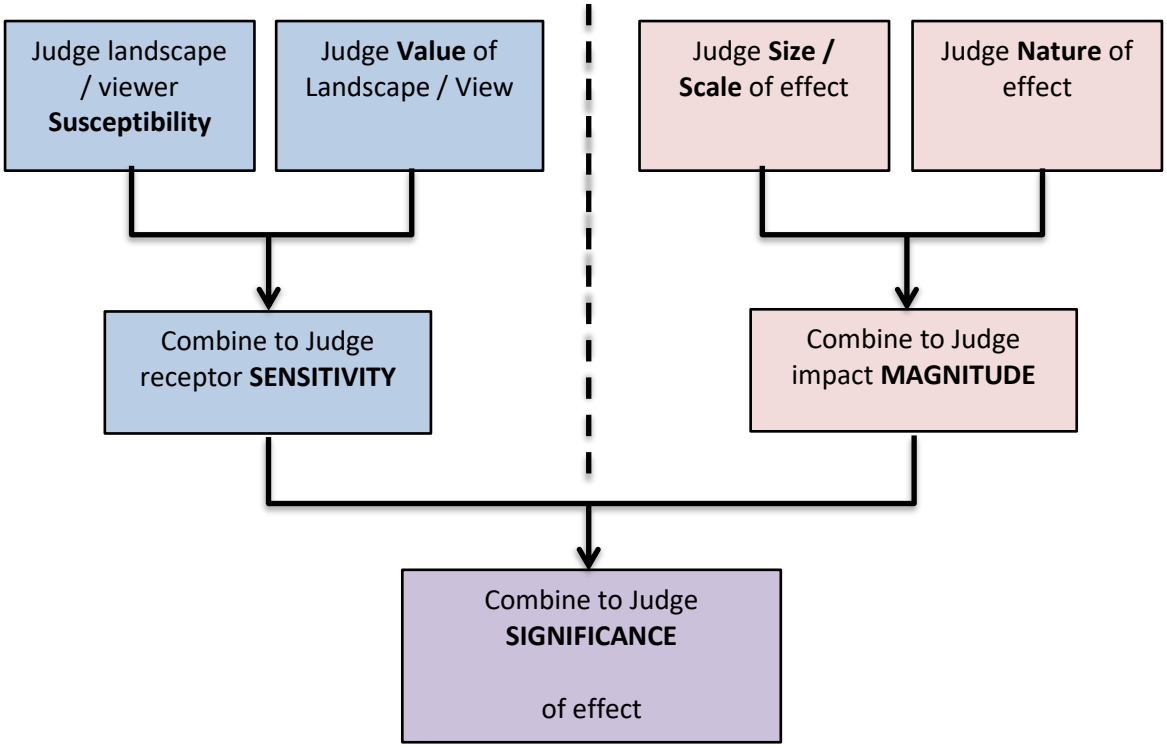


Figure 17.1 – Method for assessing Landscape Impact significance and Visual Impact significance (based on GLVIA – 2013)

17.5.1LVIA Assessment Tools / Techniques

17.5.1.1 Analysis

Reverse ZTV analysis can be used in the early stages of design refinement to determine whether turbines within the site, or a portion of the site, will be visible from key receptors. Depending on the sensitivity of the receptor, the turbine layout can be adjusted to avoid or substantially reduce visibility from the sensitive receptor.

Wireframe montages, which consist of spatially accurate, but un-rendered (usually blue) turbines can be quickly prepared and used to examine visual effects, in particular the aesthetics of the turbine arrangement from key views. The layout can then be adjusted and re-examined in the same manner until an optimal design is achieved.

17.5.1.2 Photomontages

Photomontages are photo-realistic depictions of the proposed development superimposed on baseline photography at selected receptor/viewpoint locations. The photomontages will be fully compliant with the most recent guidance document NaturScot Visual Representation of Wind Farms: Best Practice Guidelines (Version 2.2 - 2017).

In the case of Derryadd Wind Farm, it is anticipated that approximately 50 no. viewpoints will be required overall. It is imperative that base photography is captured in the clearest of viewing conditions, especially as existing turbines will be contained in most views.

17.5.1.3 Route Screening Analysis (RSA)

The project team landscape specialist has developed a 360° vehicle mounted photo-capture unit to gather imagery every second (approximately 15 m intervals). The images are then synchronised with a 3D model of the proposed development for rapid analysis of screening levels. Alternatively, and where available, Digital Surface Model (DSM) data can be used to achieve comparable route screening results. When used in vegetated lowland landscapes, RSA has shown actual visibility to be much less than indicated by traditional Zone of Theoretical Visibility (ZTV) maps. In this open peatland dominated landscape, actual visibility is likely to be more comparable to bare-ground theoretical visibility except within and around forested and farmed areas.

17.5.1.4 Cumulative Effects

Cumulative effects will be assessed in accordance with the guidance document Assessing the Cumulative Impact of Onshore Wind Energy Developments, NaturScot, 2012 taking account of 'Combined Views' 'Succession Views' and 'Sequential Views'. The landscape specialist will use their own on-line viewer to compare 360° photography against corresponding 360° cumulative Wireframe images to aid the cumulative effect assessment.

Cumulative effects will be a key consideration in this instance as the proposed development is located within 30 km of the Sliabh Bawn, Skrine and Roosky Wind Farms.

18.0 AVIATION, TELECOMMUNICATIONS & OTHER

18.1 Introduction

This section of the report will detail the assessment methodology to be employed for this chapter of the EIAR. The assessment will address the potential for interference on Telecommunications and Aviation infrastructure including TV, Radio, Radar etc. The assessment of potential effects on aviation and telecoms will be based on *Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).*

The layout design of the proposed wind farm is constraints led and telecoms links are a central consideration in this process. The preferred approach to mitigating the potential effect on telecoms is to locate proposed infrastructure such that potential effects on telecom links are avoided.

18.2 Assessment of Effects

The Aviation and Telecommunications specialist will identify operators of Telecommunications and Aviation infrastructure including TV, Radio, Radar etc. in the vicinity of the proposed development and determine, through consultation with them, whether there is potential interaction or interference with the assets within the study area as a result of the proposed development.

The assessment of the potential effects of the proposed development on telecommunications and aviation will be carried out in accordance with the *Wind Energy Development Guidelines (2006).*,(and as amended by the Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government, 2019));

The assessment will include a desk study and review of the responses to consultation with the relevant suppliers and statutory and non-statutory bodies. Effects in relation to telecoms, aviation and electromagnetic interference will be assessed in terms of the construction, operational and decommissioning phase of the proposed development. Potential cumulative effects with other projects will also be assessed.

18.3 Desktop and Field Survey

The assessment of Television and Radio effects will include:

- Identification of sources of local TV and radio reception;

- Identification of local telecommunications transmitters;
- Site surveying of telecommunications infrastructure including a microwave link survey;
- Determining if the turbines are in the path between the receptors and transmitter;
- Liaison with RTÉ as required to assess effects and address any queries or issues should they arise;
- Carrying out a baseline interference assessment; and
- Providing recommendations for pre- and post- construction monitoring.

The assessment of Radar, Telecommunications and Aviation effects will include:

- Identification of local telecommunications and aviation microwave links;
- Desktop assessment of all identified aviation infrastructure and aviation routes which could potentially be affected by the proposed development;
- Liaison with all relevant Radar, Telecommunications and Aviation operators to assess effects and address any queries or issues should they arise;
- Determining if the turbines are in the path between the receptors and transmitter;
- Examining the interference scenario;
- Identification of predicted effects;
- Mitigation Studies;
- Measurement of existing electromagnetic environment and statement regarding future compliance to relevant regulations; and
- Providing recommendations for pre- and post- construction monitoring.

19.0 TRAFFIC AND TRANSPORTATION

19.1 Introduction

The purpose of the traffic impact assessment will be to assess the potential effects of the proposed wind farm on the surrounding road network. The assessment will predominantly focus on the effects associated with the construction, operation and decommissioning of the proposed wind farm. Cumulative effects will also be addressed.

A number of options are being considered in relation to turbine delivery routes, including route options from Killybegs Port, Galway Port and Dublin Port. Regardless of which entry port is chosen, it is anticipated that turbine deliveries to the site would also arrive via the M6 to Athlone and onward to the site via the N61 to Roscommon, followed by the N63 to Lanesborough.

The assessment will also consider potential haul routes for construction material. The location of quarries in the area will be examined together with the potential for material sourced from within the development site. Appropriate haul routes will be identified, which will generally follow national and regional routes where possible.

19.2 Desktop and Field Survey

The primary traffic related effect caused by a wind farm generally occurs during the construction stage of the project. As such, the assessment will initially focus on haul routes to the site for both construction materials and turbine components.

Using aerial photography and mapping, all potential haul routes will be identified for the construction phase. These haul routes will initially be assessed by undertaking a site visit and driving the proposed haul routes. A qualitative assessment of the proposed haul routes will be carried out identifying pinch points, tight bends, steep elevations, poor pavement conditions, road structures, watercourse crossings etc. and the haul routes will be revised where necessary. Following the site visit, swept path analysis will be undertaken at identified pinch points by the traffic specialists to inform the assessment. Early engagement with third party landowners will be undertaken where details of external road improvements are proposed, and these will be included in the EIAR as appropriate.

19.3 Assessment of Effects

The assessment of the potential effects of the proposed development on traffic and transportation will be carried out in accordance with the *Wind Energy Development Guidelines*

(2006) and will be structured in accordance with *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022).*

The traffic team will look at traffic access to the site from the public road network and will undertake junction assessments. They will examine sightlines and advise on any limitations. They will consider if the existing site access is appropriate for construction and work vehicles to enter and exit the site in a safe manner.

Using information on the project construction methodology, an estimate of the number of vehicles (both light and heavy good vehicles) that would be generated by the construction phase, will be produced. These estimates can be used to assess the effect on the road network in numerical terms using traffic count data and will also feed into other EIAR chapters such as noise and air quality. The Road / Traffic Section of Longford County Council will be consulted, and the relevant information will be taken into consideration in accordance with the *Traffic and Transportation Assessment Guidelines, May 2014 (PE-PDV-02045)* produced by Transport Infrastructure Ireland(TII).

The Traffic and Transportation chapter of the EIAR will be completed, taking into consideration the information generated during the processes described above, identifying effects and proposing mitigation measures where appropriate.

Typically, wind farms are located in rural areas and this poses challenges for the delivery of abnormal load turbine components to site. The proposed wind farm is no different in this respect, however, there are a number of existing wind farms currently operating in the vicinity of the site. This will assist in identifying an existing and suitable haul route for the successful and safe delivery of turbine components. The proximity of the N63 national road, with links to the national road network for haul of both abnormal loads and construction materials will be beneficial.

In addition to the assessment, a Traffic Management Plan, will be prepared for the construction phase and appended to the EIAR. The Traffic Management Plan will consider measures to ensure that any increase in activity along the public road network during construction, operation and decommissioning does not result in an increase in safety hazards.

The requirement for the preparation of a Stage 1 Road Safety Audit (RSA) will be considered and discussed with the traffic department in Longford County Council. Where required, this will be

completed by a suitably qualified independent road safety auditor team and included in the EIAR.

20.0 ARCHAEOLOGICAL, ARCHITECTURAL & CULTURAL HERITAGE

20.1 Introduction

The purpose of the archaeological, architectural and cultural heritage assessment will be to assess the potential effects of the proposed wind farm on heritage features within the study area.

For the purposes of the assessment the study area surrounding the proposed wind farm site is defined as an area measuring 2 km from the proposed development boundary. The wider area outside this 2 km zone will also be examined in the context of the general archaeological and architectural heritage of the local area.

The assessment of the archaeological, architectural and cultural heritage resource will be conducted under the relevant guidance, legislation and planning frameworks applicable to the Republic of Ireland. These include:

- Code of Practice between the Department of Arts, Heritage and the Gaeltacht, the National Museum of Ireland and Bord na Móna (2012);
- National Monuments Act 1930 to 2014;
- The Planning and Development Acts 2000 (as amended 2024);
- Heritage Act, 1995, as amended;
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Environmental Protection Agency, 2022);
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht and Islands;
- Architectural Heritage Protection Guidelines for Planning Authorities (Department of Arts, Heritage and the Gaeltacht, 2011);
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 2000 and the Local Government (Planning and Development) Act 2000.

An assessment will be carried out on the proposed wind farm by a comprehensive study of the potential direct, indirect, residual and cumulative effects of the proposed development. This will include, where applicable, visual effects on archaeological, architectural and cultural heritage assets.

20.2 Sensitive Receptors

Sensitive receptors within and in the vicinity of the assessment area of the proposed development will be identified as part of the scoping, constraints and EIA. These will include recorded monuments, protected structures, designed landscapes and structure listed within the National Inventory of Architectural Heritage (NIAH) survey.

Affects on settings of sites may arise when a development is proposed immediately adjacent to a recorded monument or cluster of monuments. While the proposed development may not physically effect on a site, it may alter the setting of a monument or group of monuments. The visual effect on setting of monument or feature within the wider area will be considered during the assessment. The uniqueness of the monuments, the potential interrelationships of monuments, the inter-visibility of monuments, visual dominance and whether a setting is altered or unaltered as a result of the proposed development can be used to assess effects.

The assessment of potential visual effects will utilize Theoretical Zones of Visibility produced by the Landscape and Visual specialist, along with photomontages and wireframe mapping as appropriate.

20.3 Desktop and Field Survey

A systematic search will be undertaken of all readily available and relevant documentary sources.

These will include, but are not exclusive to the:

- Record of Monuments and Places for County Longford;
- Sites and Monuments Record for County Longford;
- Monuments in State Care Database;
- Preservation Orders;
- Register of Historic Monuments;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Relevant County Longford and Local Area Development Plans;
- Excavations Bulletin (1970-2022);
- National Inventory of Architectural Heritage.

The desktop assessment will be followed by a field inspection of the proposed development. The field survey will confirm the accuracy of the information collected during the desktop study and

will also assess any additional previously unrecorded sites of archaeological and cultural heritage merit, which could be significantly affected by the proposed wind farm.

21.0 INTERACTION OF EFFECTS

This chapter of the EIAR entitled "Interaction of Effects" will describe the potential interaction of effects between the various aspects of the environment that will be discussed in the EIAR. A matrix will be prepared and will highlight the occurrence of potential positive or negative effects during both the construction, operational and decommissioning phases of the proposed development.

21.1 Schedule of Mitigation and Monitoring Measures

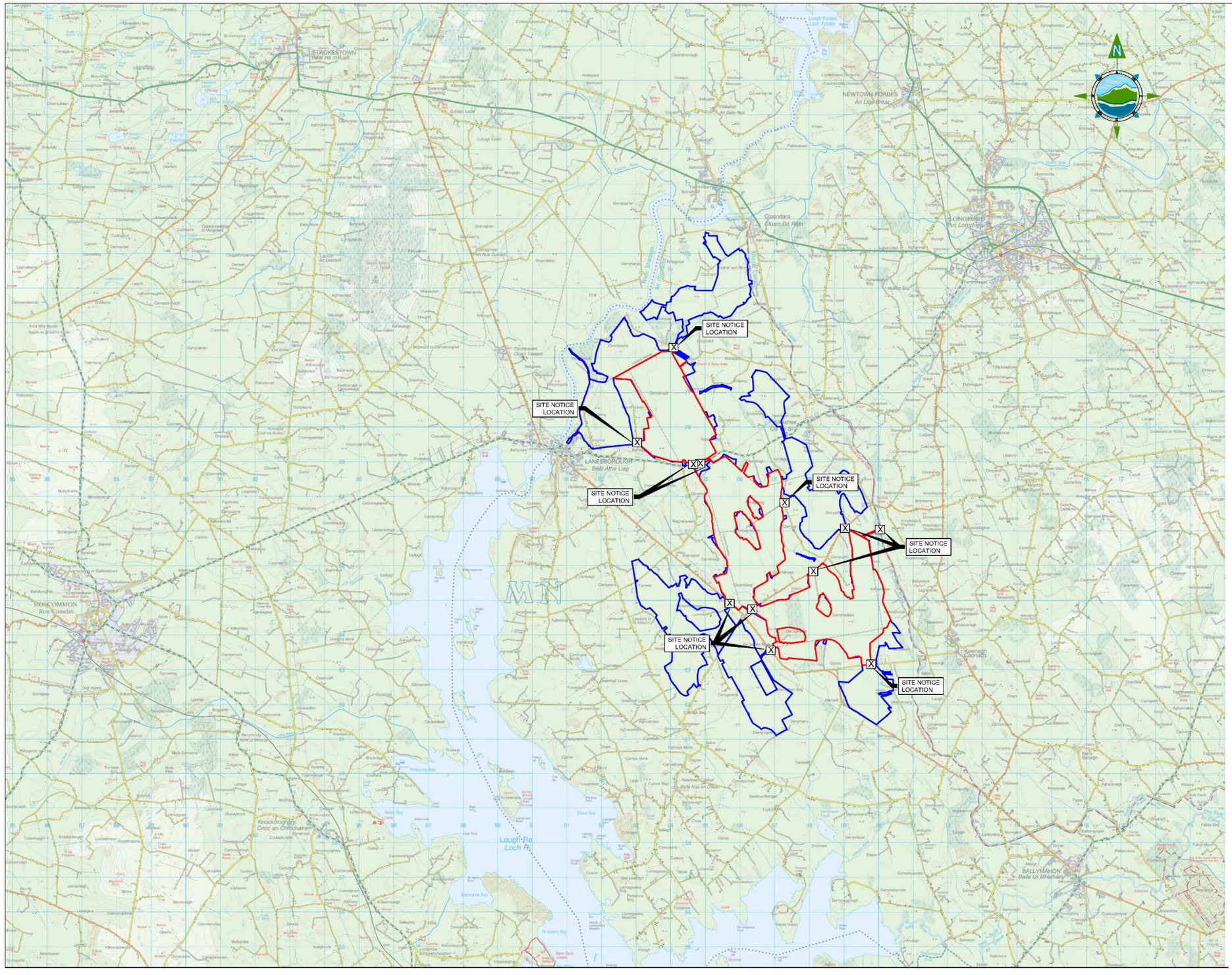
This chapter of the EIAR is a summary chapter collating all of the mitigation and monitoring measures relevant to the proposed development and will be included as a standalone chapter.

APPENDIX A: LIST OF CONSULTEES

Consultee
Airspeed
An Chomhairle Ealaion / The Art Council
An Garda Síochána
An Taisce - The National Trust for Ireland
Bat Conservation Ireland
BirdWatch Ireland
Broadcasting Authority of Ireland
Commission for Regulation of Utilities, Water & Energy
ComReg
Coras Iompair Eireann (CIE)
Department of Agriculture, Food and Marine
Department of Defence
Department of Environment, Climate & Communications
Department of Housing, Local Government & Heritage (dau)
Department of Tourism, Culture, Arts, Gaeltacht, Sport & Media
Department of Transport
Eastern & Midland Regional Assembly
EIR
Eirgrid
Enet Telecommunications
Environmental Protection Agency
ESB Telecom Services
Europasat
Fáilte Ireland
Fast com
Geological Survey of Ireland
Health and Safety Authority
Health Service Executive (west)
Host Ireland
Imagine Networks Services
Inland Fisheries Ireland
iRadio (Athlone)
Irish Aviation Authority
Irish Parachute Club
Irish Peatland Conservation Council
Irish Raptor Study Group
Irish Red Grouse Association
Irish Water
Irish Wildlife Trust
ISPCA (Longford Office)
Knock Airport
Lanesborough Fire Station
Longford County Council Environmental Department
Longford County Council Heritage Office
Longford County Council Planning Department
Longford County Council Roads Department
Magnet Networks

Midlands Energy Agency
National Ambulance Service
National Parks and Wildlife Service
Netshare Ireland / Vodafone
Office of Public Works
Pure Telecom
RNLI
Roscommon County Council Environmental Department
Roscommon County Council Planning Department
Roscommon County Council Roads Department
Roscommon County Council Heritage Office
RTE NL / 2RN
Shannon Airport
Shannon River Basin District
Shannonside Radio
Sport Ireland
Sustainable Energy Authority of Ireland
The Heritage Council
Three Ireland (Hutchison)
Towercom Ltd.
Transport Infrastructure Ireland
Viatel
Virgin Media
Waterways Ireland
Westmeath County Council

APPENDIX B: DERRYADD WIND FARM FIGURES



GENERAL LEGEND

PLANNING APPLICATION BOUNDARY

LANDOWNER BOUNDARY

SITE NOTICE LOCATION [X]

NOTES:

1. DRAWINGS FOR PLANNING PURPOSES ONLY.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. GRID REFERENCES TO IRISH NATIONAL GRID.
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

OSI 1:50,000 Discovery Series Sheet No's: 1828, 1826, 1824, 2028, 2026, & 2024

1000m 0 1000m 2000m 3000m

Rev	Date	Description	By	Chkd.
A	20.09.24	ISSUED FOR PLANNING	MN	MN

Client: Bord na Móna

Project: DERRYADD WIND FARM

Title: REGIONAL SITE LOCATION MAP

Scale @ A1: 1:50,000

Prepared by:	Checked by:	Date:
M. Nolan	I. Heanue	September '24

Drawing Status: Planning

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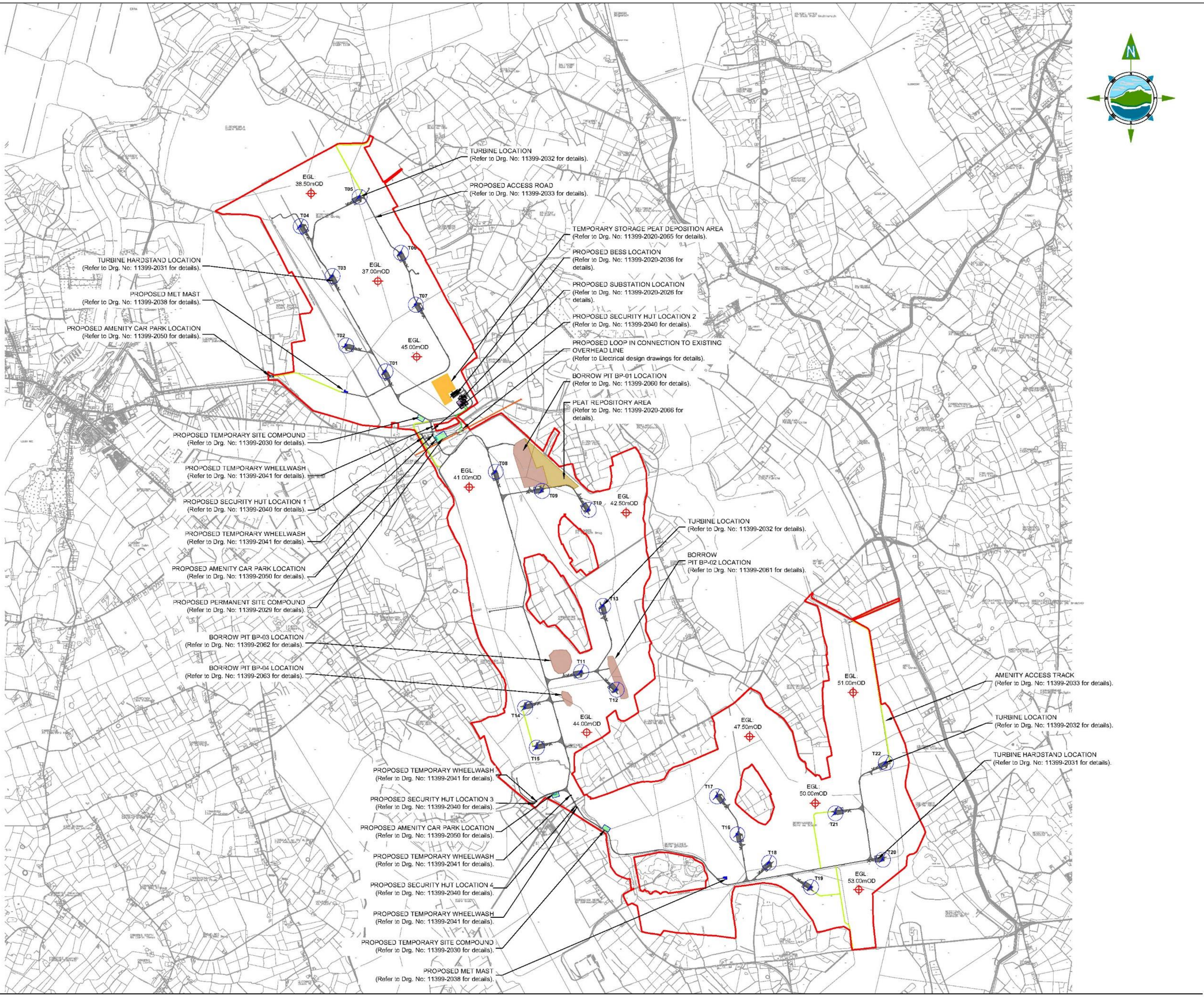
Drawing No.: 11399-2000

Revision: A



GENERAL LEGEND

- PLANNING APPLICATION BOUNDARY
- PROPOSED TURBINE HARDSTAND
- PROPOSED TURBINE LOCATION
- PROPOSED ACCESS TRACK
- PROPOSED AMENITY ACCESS TRACK
- PROPOSED SUBSTATION LOCATION
- PROPOSED BESS LOCATION
- TEMP. STORAGE PEAT DEPOSITION AREA
- PEAT REPOSITORY AREA
- CONSTRUCTION COMPOUND
- PROPOSED AMENITY CAR PARK
- PROPOSED SECURITY HUT
- PROPOSED MET MAST
- PROPOSED UG CABLE / GRID CONNECTION
- EXISTING OVERHEAD LINE
- BORROW PIT LOCATION

NOTES:

1. DRAWINGS FOR PLANNING PURPOSES ONLY.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. GRID REFERENCES TO IRISH NATIONAL GRID.
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

OSI 1:5,000 Sheet No's: 2355, 2356, 2417, 2418, 2419, 2486, 2487, 2555 & 2556.

OSI 1:2,500 Sheet No's: 2417-A, 2417-C, 2418-B & 2419-A.

400m 0 400m 800m 1200m

Rev	Date	Description	By	Chkd.
A	20.09.24	ISSUED FOR PLANNING	MN	MN

Client: Bord na Móna

Project: DERRYADD WIND FARM

Title: SITE MASTER PLAN

Scale @ A1: 1:20,000

Prepared by: M. Nolan | Checked by: I. Heanue | Date: September '24

Drawing Status: Planning

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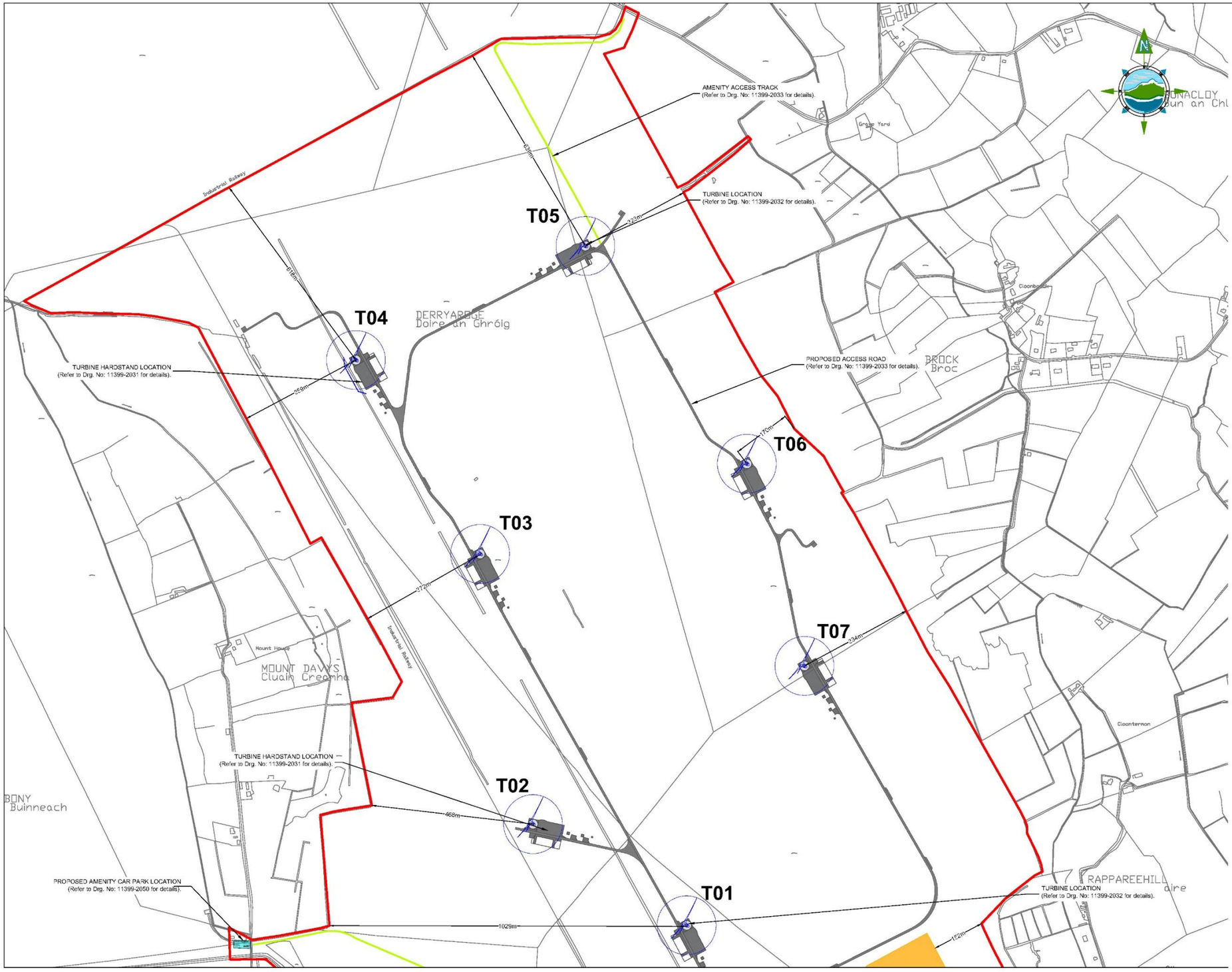
Drawing No.: 11399-2010

Revision: A



GENERAL LEGEND

- PLANNING APPLICATION BOUNDARY
- PROPOSED TURBINE HARDSTAND
- PROPOSED TURBINE LOCATION
- PROPOSED ACCESS TRACK
- PROPOSED AMENITY ACCESS TRACK
- PROPOSED SUBSTATION LOCATION
- PROPOSED BESS LOCATION
- TEMP. STORAGE PEAT DEPOSITION AREA
- PEAT REPOSITORY AREA
- CONSTRUCTION COMPOUND
- PROPOSED AMENITY CAR PARK
- PROPOSED SECURITY HUT
- PROPOSED MET MAST
- PROPOSED U/G CABLE / GRID CONNECTION
- EXISTING OVERHEAD LINE
- BORROW PIT LOCATION

KEY PLAN

NOTES:

1. DRAWINGS FOR PLANNING PURPOSES ONLY.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. GRID REFERENCES TO IRISH NATIONAL GRID.
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

OSI 1:5,000 Sheet No's: 2355, 2356, 2417, 2418, 2419, 2486, 2487, 2505 & 2506.

OSI 1:2,500 Sheet No's: 2417-A, 2417-C, 2418-B & 2419-A.

Rev	Date	Description	By	Chkd.
A	20.09.24	ISSUED FOR PLANNING	MN	MN

Client: Bord na Móna

Project: DERRYADD WIND FARM

Title: SITE LAYOUT PLAN - Sheet 1 of 6 -

Scale @ A1: 1:5,000 (Scale as agreed with An Bord Pleanála Date: XX/XX/XXX)

Prepared by: M. Nolan | Checked by: I. Heanue | Date: September '24

Drawing Status: Planning

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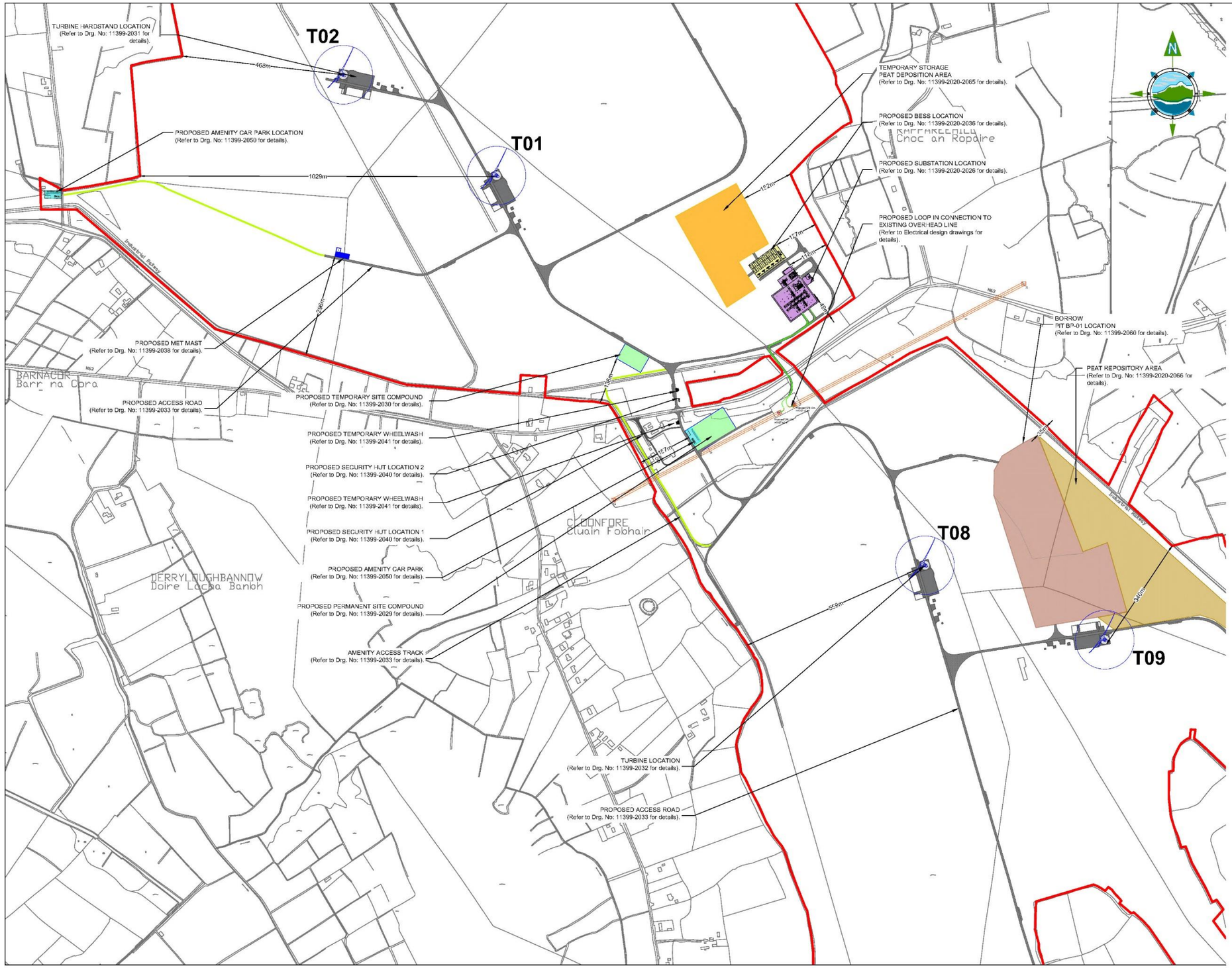
Drawing No.: 11399-2011

Revision: A



GENERAL LEGEND

- PLANNING APPLICATION BOUNDARY
- PROPOSED TURBINE HARDSTAND
- PROPOSED TURBINE LOCATION
- PROPOSED ACCESS TRACK
- PROPOSED AMENITY ACCESS TRACK
- PROPOSED SUBSTATION LOCATION
- PROPOSED BESS LOCATION
- TEMP. STORAGE PEAT DEPOSITION AREA
- PEAT REPOSITORY AREA
- CONSTRUCTION COMPOUND
- PROPOSED AMENITY CAR PARK
- PROPOSED SECURITY HUT
- PROPOSED MET MAST
- PROPOSED U/G CABLE / GRID CONNECTION
- EXISTING OVERHEAD LINE
- BORROW PIT LOCATION

KEY PLAN

NOTES:

1. DRAWINGS FOR PLANNING PURPOSES ONLY.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. GRID REFERENCES TO IRISH NATIONAL GRID.
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

OSi 1:5,000 Sheet No's: 2355, 2356, 2417, 2418, 2419, 2486, 2487, 2555 & 2556.

OSi 1:2,500 Sheet No's: 2417-A, 2417-C, 2418-B & 2419-A.

100m 0 100m 200m 300m

Rev	Date	Description	By	Chkd
A	20.09.24	ISSUED FOR PLANNING	MN	MN

Client: Bord na Móna

Project: DERRYADD WIND FARM

Title: SITE LAYOUT PLAN - Sheet 2 of 6 -

Scale @ A1: 1:5,000 (Scale as agreed with An Bord Pleanála Date: XX/XX/XX)

Prepared by: M. Nolan | Checked by: I. Heanue | Date: September '24

Drawing Status: Planning

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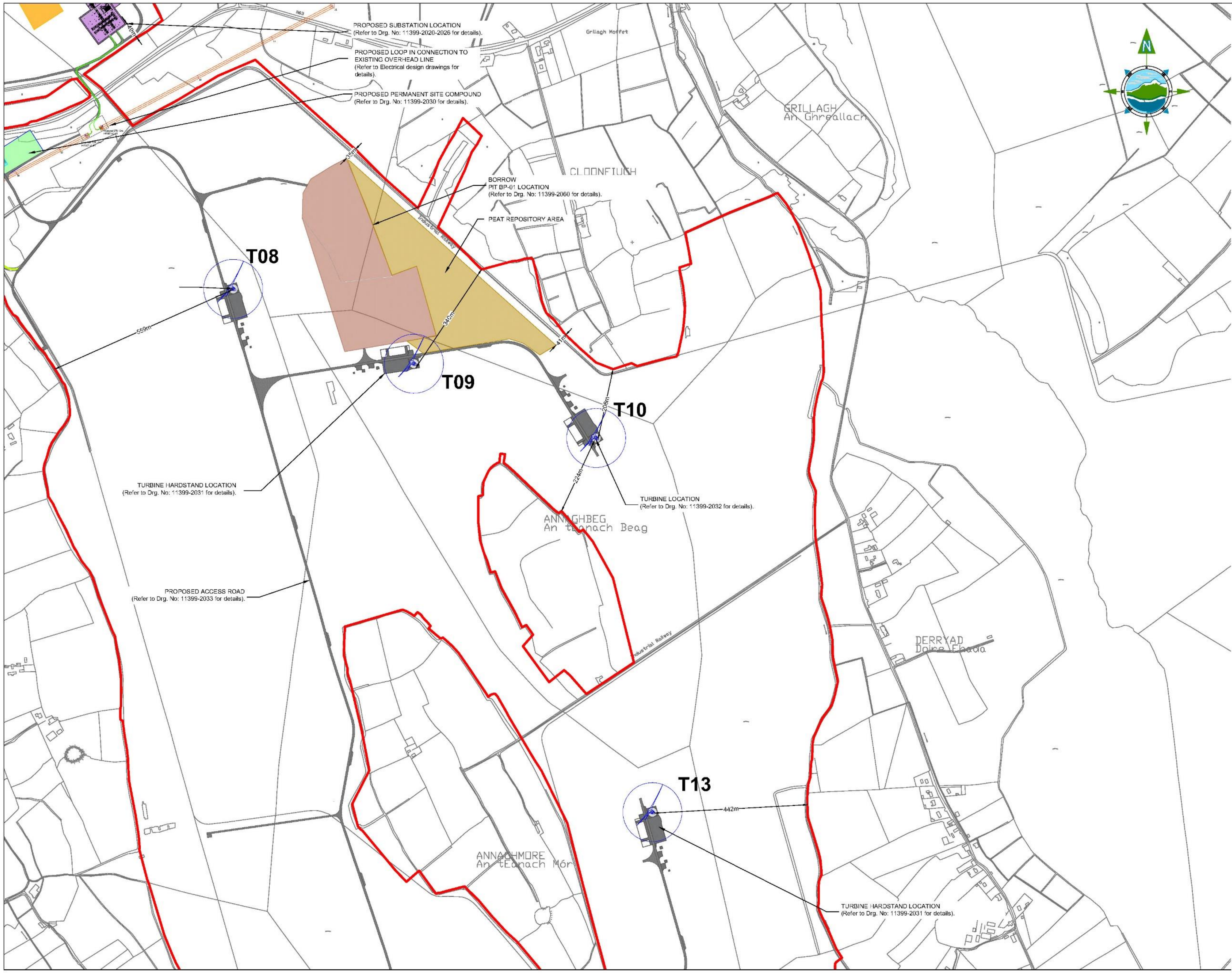
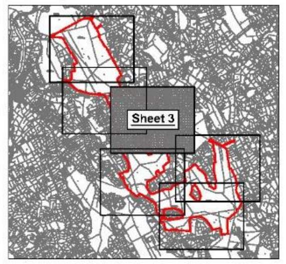
Drawing No.: 11399-2012 | Revision: A



GENERAL LEGEND

- PLANNING APPLICATION BOUNDARY
- PROPOSED TURBINE HARDSTAND
- PROPOSED TURBINE LOCATION
- PROPOSED ACCESS TRACK
- PROPOSED AMENITY ACCESS TRACK
- PROPOSED SUBSTATION LOCATION
- PROPOSED BESS LOCATION
- TEMP. STORAGE PEAT DEPOSITION AREA
- PEAT REPOSITORY AREA
- CONSTRUCTION COMPOUND
- PROPOSED AMENITY CAR PARK
- PROPOSED SECURITY HUT
- PROPOSED MET MAST
- PROPOSED UG CABLE / GRID CONNECTION
- EXISTING OVERHEAD LINE
- BORROW PIT LOCATION

KEY PLAN



NOTES:

1. DRAWINGS FOR PLANNING PURPOSES ONLY.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. GRID REFERENCES TO IRISH NATIONAL GRID.
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

OSI 1:5,000 Sheet No's: 2355, 2356, 2417, 2418, 2419, 2486, 2487, 2555 & 2556.

OSI 1:2,500 Sheet No's: 2417-A, 2417-C, 2418-B & 2419-A.

100m 0 100m 200m 300m

A	20.09.24	ISSUED FOR PLANNING	MN	MN
Rev	Date	Description	By	Chkd.

Client: Bord na Móna

Project: DERRYADD WIND FARM

Title: SITE LAYOUT PLAN
- Sheet 3 of 6 -

Scale @ A1: 1:5,000 — Scale as agreed with An Bord Pleanála Date: XX/XX/XX

Prepared by: M. Nolan | Checked by: I. Heanue | Date: September '24

Drawing Status: Planning

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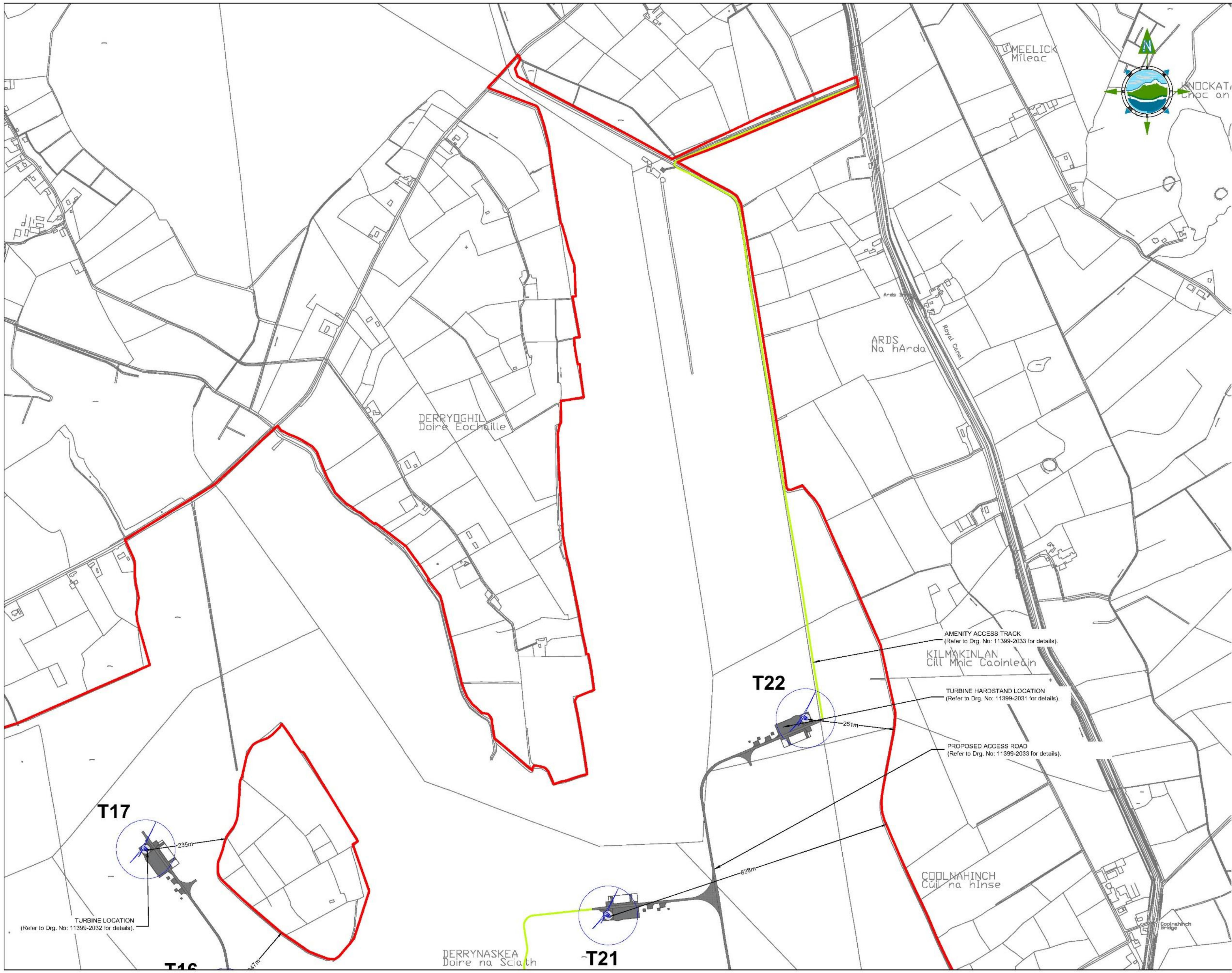
Drawing No.: 11399-2013 | Revision: A



GENERAL LEGEND

PLANNING APPLICATION BOUNDARY

PROPOSED TURBINE HARDSTAND

PROPOSED TURBINE LOCATION

PROPOSED ACCESS TRACK

PROPOSED AMENITY ACCESS TRACK

PROPOSED SUBSTATION LOCATION

PROPOSED BESS LOCATION

TEMP. STORAGE PEAT DEPOSITION AREA

PEAT REPOSITORY AREA

CONSTRUCTION COMPOUND

PROPOSED AMENITY CAR PARK

PROPOSED SECURITY HUT

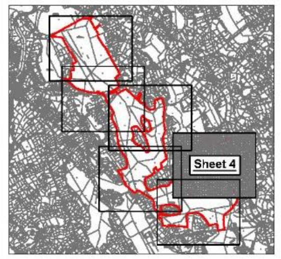
PROPOSED MET MAST

PROPOSED UG CABLE / GRID CONNECTION

EXISTING OVERHEAD LINE

BORROW PIT LOCATION

KEY PLAN



NOTES:

1. DRAWINGS FOR PLANNING PURPOSES ONLY.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. GRID REFERENCES TO IRISH NATIONAL GRID.
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

OSI 1:5,000 Sheet No's: 2355, 2356, 2417, 2418, 2419, 2486, 2487, 2555 & 2556.

OSI 1:2,500 Sheet No's: 2417-A, 2417-C, 2418-B & 2419-A.

100m 0 100m 200m 300m

Rev	Date	Description	By	Chkd.
A	20.09.24	ISSUED FOR PLANNING	MN	MN

Client: Bord na Móna

Project: DERRYADD WIND FARM

Title: SITE LAYOUT PLAN - Sheet 4 of 6 -

Scale @ A1: 1:5,000

Prepared by: M. Nolan | Checked by: I. Heanue | Date: September '24

Drawing Status: Planning

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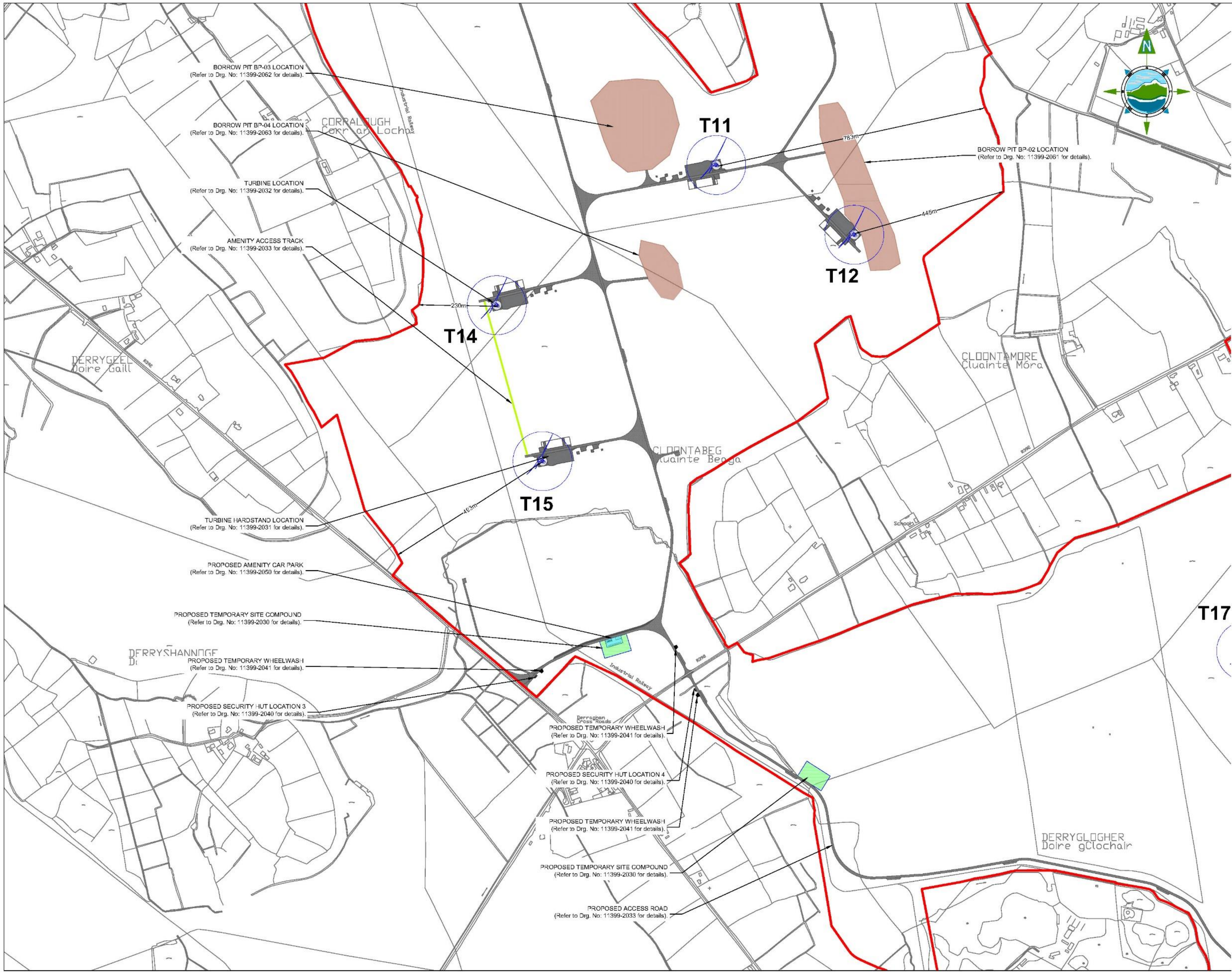
Drawing No.: 11399-2014

Revision: A



GENERAL LEGEND

PLANNING APPLICATION BOUNDARY

PROPOSED TURBINE HARDSTAND

PROPOSED TURBINE LOCATION

PROPOSED ACCESS TRACK

PROPOSED AMENITY ACCESS TRACK

PROPOSED SUBSTATION LOCATION

PROPOSED BESS LOCATION

TEMP. STORAGE PEAT DEPOSITION AREA

PEAT REPOSITORY AREA

CONSTRUCTION COMPOUND

PROPOSED AMENITY CAR PARK

PROPOSED SECURITY HUT

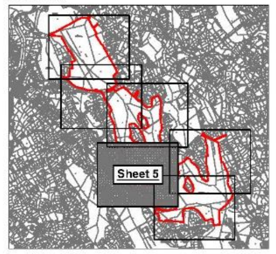
PROPOSED MET MAST

PROPOSED UG CABLE / GRID CONNECTION

EXISTING OVERHEAD LINE

BORROW PIT LOCATION

KEY PLAN



NOTES:

1. DRAWINGS FOR PLANNING PURPOSES ONLY.
2. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
3. GRID REFERENCES TO IRISH NATIONAL GRID.
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

OSI 1:5,000 Sheet No's: 2355, 2356, 2417, 2418, 2419, 2486, 2487, 2555 & 2556.

OSI 1:2,500 Sheet No's: 2417-A, 2417-C, 2418-B & 2419-A.

Ordnance Survey Ireland Licence number CYAL50311153.

100m 0 100m 200m 300m

Rev	Date	Description	By	Chkd.
A	20.09.24	ISSUED FOR PLANNING	MN	MN

Client:

Bord na Móna

Project:

DERRYADD WIND FARM

Title:

SITE LAYOUT PLAN
- Sheet 5 of 6 -

Scale @ A1: 1:5,000 Scale as agreed with An Bord Pleanála Date: XX/XX/XX

Prepared by: M. Nolan | Checked by: I. Heanue | Date: September '24

Drawing Status: Planning

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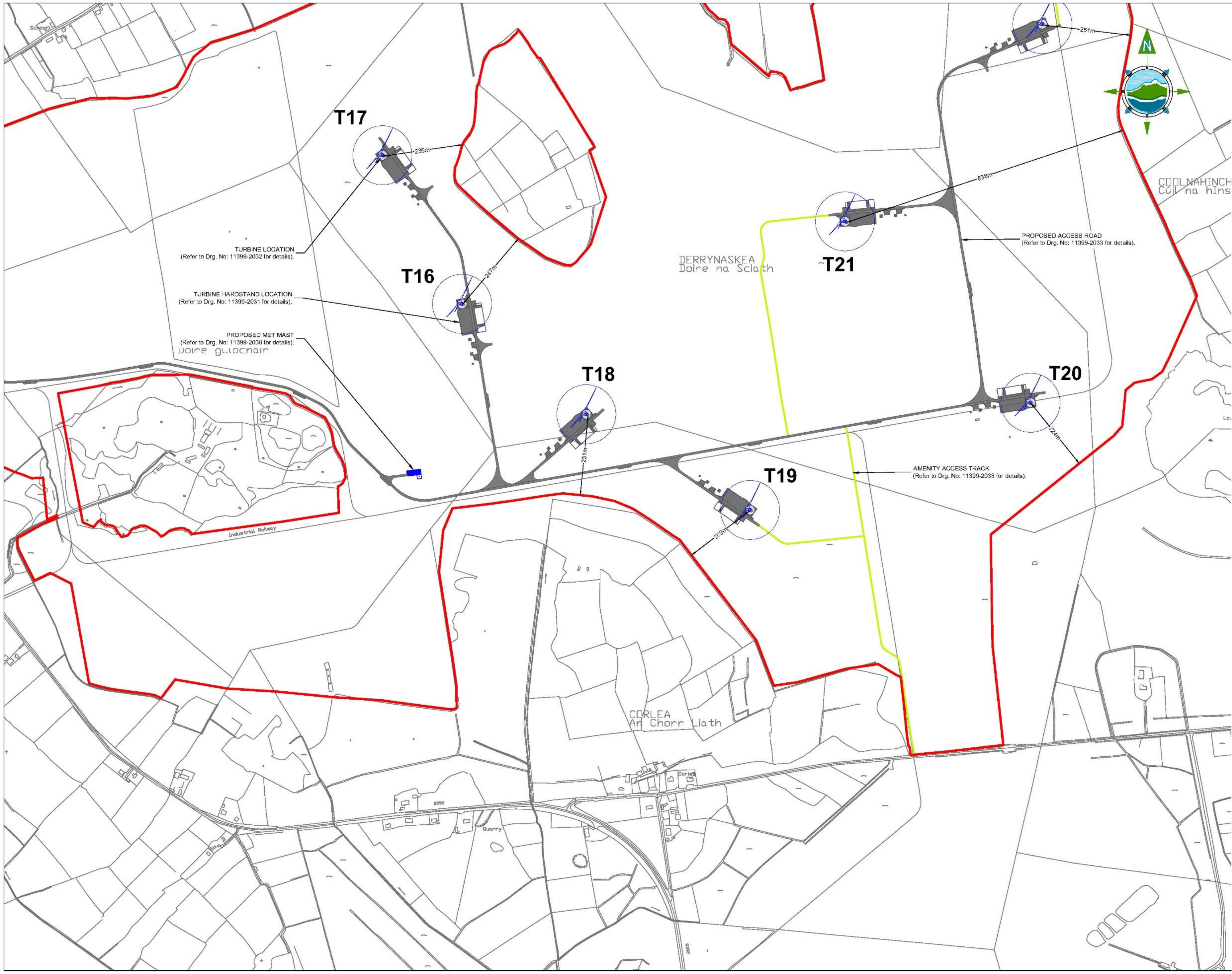
Drawing No.: 11399-2015

Revision: A



GENERAL LEGEND

PLANNING APPLICATION BOUNDARY

PROPOSED TURBINE HARDSTAND

PROPOSED TURBINE LOCATION

PROPOSED ACCESS TRACK

PROPOSED AMENITY ACCESS TRACK

PROPOSED SUBSTATION LOCATION

PROPOSED BESS LOCATION

TEMP. STORAGE PEAT DEPOSITION AREA

PEAT REPOSITORY AREA

CONSTRUCTION COMPOUND

PROPOSED AMENITY CAR PARK

PROPOSED SECURITY HUT

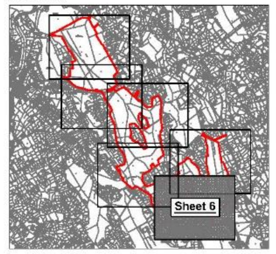
PROPOSED MET MAST

PROPOSED UG CABLE / GRID CONNECTION

EXISTING OVERHEAD LINE

BORROW PIT LOCATION

KEY PLAN



NOTES:

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OSI 1:5,000 Sheet No's: 2355, 2356, 2417, 2418, 2419, 2486, 2487, 2555 & 2556.

OSI 1:2,500 Sheet No's: 2417-A, 2417-C, 2418-B & 2419-A.

100m 0 100m 200m 300m

A	20.09.24	ISSUED FOR PLANNING	MN	MN
Rev	Date	Description	By	Chkd.

Client:

Bord na Móna

Project:

DERRYADD WIND FARM

Title:

SITE LAYOUT PLAN
- Sheet 6 of 6 -

Scale @ A1: 1:5,000 Scale as agreed with An Bord Pleanála Date: XXXXXXX

Prepared by: M. Nolan | Checked by: I. Heanue | Date: September '24

Drawing Status: Planning

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Drawing No.: 11399-2016

Revision: A

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