

CONTENTS

ACRONYMS AND ABBREVIATIONS.....	1-1
INTRODUCTION	1-1
Applicant.....	1-2
OUTLINE OF THE PROPOSED DEVELOPMENT	1-2
PERMISSION PERIOD	1-7
PLANNING APPLICATION AND EIAR REQUIREMENT	1-8
REQUIREMENT FOR COMPETENT AUTHORITY TO CONDUCT AN EIA.....	1-8
APPROPRIATE ASSESSMENT	1-9
EIAR METHODOLOGY AND STRUCTURE	1-9
EIAR Methodology.....	1-10
Scoping	1-10
EIAR STRUCTURE	1-15
Cumulative Impact.....	1-16
CONTRIBUTORS TO THE EIAR	1-16
DIFFICULTIES ENCOUNTERED.....	1-25
SCOPING CONSULTATION.....	1-25
Scoping Consultees.....	1-25
CONSULTATION WITH KEY STAKEHOLDERS.....	1-31
Pre application Consultation with Westmeath County Council	1-31
Pre application Consultation with Meath County Council	1-31
Community Consultation.....	1-33
SUMMARY OF KEY ISSUES	1-35
Key Issues Raised during Community Consultation.....	1-35
VIEWING AND PURCHASING OF THE EIAR	1-36
FIGURES	1-37
APPENDICES	1-39

TABLES

Table 1-1 Candidate Turbine Parameters to be Assessed. 1-2
Table 1-2 How the Design Parameters Were Assessed for Each Topic 1-3
Table 1-3 Contributors to the EIAR..... 1-17
Table 1-4: List of Consultees..... 1-26
Table 1-5: Summary of Scoping Responses and Actions 1-28

FIGURES

Figure 1-1: Site Location 1-37
Figure 1-2-a, b & c: Site Layout Plan..... 1-37
Figure 1-3: Turbine Delivery Route 1-37

APPENDICES

Appendix 1-1: Developments Considered in the Cumulative Assessment.....
Appendix 1-2: Scoping Consultees
Appendix 1-3: Scoping Report.....
Appendix 1-4: Community Engagement.....

Acronyms and Abbreviations

ABP	An Bord Pleanála
AWEA	American Wind Energy Association
BAI	Broadcasting Authority Ireland
CAP23	Climate Action Plan 2023
CDP	County Development Plan
CEMP	Construction Environmental Management Plan
CLO	Community Liaison Office
CRM	Collision Risk Model
cSACs	Candidate SACs
CSO	Central Statistics Office
DOEHLG	Department of the Environment Heritage and Local Government
EDs	Electoral Divisions
EHSRs	Essential Health and Safety Requirements
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ELF	Extremely Low Frequency
EMF	Electromagnetic Field
EMP	Emergency Response Plan
EPA	Environmental Protection Agency
EPS	Emergency Power Supply
ERP	Emergency Response Plan
ESB	Electricity Supply Board
EU	European Union
EWC	European Works Council
EWEA	European Wind Energy Association
FWD	Falling Weight Deflectometer survey
GSI	Geological Survey Ireland
GVA	Gross Value Additional
HSA	Health and Safety Authority
HSE	Health Service Executive
HV	High Voltage
IARC	International Agency for Research on Cancer
ICNIRP	International Commission on Non-Ionising Radiation Protection
IFI	Inland Fisheries Ireland

IR	Infra-Red
IW	Irish Water
IWEA	Irish Wind Energy Association
LCC	Laois County Council
LCDP	Laois County Development Plan
LVIA	Landscape and Visual Impact Assessment
MCC	Meath County Council
NDP	National Development Plan
NESC	National Economic and Social Council
NGO's	Non-Governmental Organisations
NIS	Natura Impact Statement
NM	Nautical Miles
NPWS	National Parks and Wildlife Service
NTS	Non-Technical Summary
PCE	Pre-Connection Enquiry
PCS	Pavement Condition Survey
PPE	Personal Protective Equipment
PSO	Public Service Obligation levy
pSPAs	Proposed SPAs
PWS	Public Water Scheme
RESS	Renewable Energy Support Scheme
SAC/cSAC	Special Area of Conservation/ candidate Special Area of Conservation
SEAI	Sustainable Energy Authority of Ireland
SEI	Sustainable Energy Ireland
SLR	SLR Consulting Limited
SuDS	Sustainable Drainage Scheme
SWMP	Surface Water Management Plan
TBC	To be Confirmed
TDR	Turbine Delivery Route
WCC	Westmeath County Council
WEI	Wind Energy Ireland
WFD	Water Framework Directive
WHO	World Health Organisation
WTGs	Wind Turbine Generators

INTRODUCTION

- 1.1 SLR Environmental Consulting Ltd (SLR) has prepared this Environmental Impact Assessment Report (EIAR) on behalf of Knockanarragh Wind Farm Limited. Knockanarragh Wind Farm Ltd. intends to apply to An Bord Pleanála for permission to construct the Proposed Development which consists of the construction of 8 No. Wind Turbines, all ancillary works in Co. Westmeath in addition to works along the turbine delivery route and the construction of an underground grid connection with a 33kV cable to a proposed 110kV substation in Clonmellon in Co. Meath. The Proposed Development will also include a section of 110kV cable between the 110kV substation and the existing overhead line. The Proposed Development will be carried out in Counties Meath and Westmeath (See **Chapter 2** of this EIAR for a full detailed description of the Proposed Development). The Proposed Development will be carried out in Counties Westmeath and Meath. The location of the development is shown on **Figure 1-1**.
- 1.2 The Planning Application boundary covers an area of 115.81 Ha., refer to **Figure 1-2** and is elongated in shape (measuring approximately 4km north – south), encompassing both the northern and southern clusters of turbines, grid route and the substation. The site consists of a mixture of agricultural land, primarily grazing, and forestry. Some of the forestry is on land that was previously used for peat extraction. The Proposed Development Site contains approximately 79.11 ha of private plantation and native woodland.
- 1.3 The Planning Application Boundary is split across the different elements of the Proposed Development:
 - the wind farm and its ancillary infrastructure (including access tracks, drainage, and internal collector cable),
 - the Substation,
 - the Cable Corridor, and
 - Turbine Delivery Route.
- 1.4 The western boundary of the Main Wind Farm site is immediately bound by the Westmeath / Meath County administrative boundary. The site borders the River Boyne and Blackwater cSAC (Site Code: 002299) to the north, northwest, west and southwest. The River Stonyford and it's tributary D'arcy Crossroad Streams forms part of the western boundary of the Main Wind Farm site.
- 1.5 The lowest part of the Main Wind Farm site is located close to Darcy's Crossroads Stream at the northwest boundary of the site. This part of the Proposed Development Site includes proposed locations for T1 and T2 and is located at c. 88m AOD. The highest point in the northern cluster is at 106m AOD, c. 820m southeast of turbine location T3. The southern cluster of turbines lies between at c. 90-91m AOD for T5, T6 and T7 and c. 94m AOD at T4. The lowest part of the southern cluster is close to the proposed location for T8 at c. 85m AOD.
- 1.6 There are several eskers running through the Main Wind Farm site, some of which show signs of having been locally used for sand and gravel extraction. There are no residential properties within the site. Residential properties within 1km of the planning application boundary are shown on **Figure 4-3** of the EIAR. Rosmead House (with associated structures) is a building of heritage interest to the south of the Main Wind Farm Site.
- 1.7 The Main Wind Farm Site which accommodates 8 Turbines and all associated infrastructure is located west of the N52 National Road from Delvin to Clonmellon in the townlands of

Clonmellon, Kilrush Upper, Kilrush Lower, Newtown, Ballinlig, Carnybrogan, Cavestown and Rosmead, County Westmeath and Galboystown, Co. Meath. The site location is approximately 1km southwest of the village of Clonmellon and c. 2.8km northeast of Delvin, in Co. Westmeath. This part of the site will be accessed directly from the L5542 and an existing agricultural entrance off the N52, a national primary road.

- 1.8 A 33 kV cable is proposed within the public road (L5542 and N52) connecting the Proposed Wind Farm to the proposed 110 kV Substation at Clonmellon. The 110 kV Substation and 33 kV cable also forms part of the Proposed Development.
- 1.9 The Proposed Substation Site is located in the townland of Galboystown, on the western outskirts of Clonmellon, 200m from the settlement boundary. This part of the site will also accommodate construction of a section of 110kV electricity cabling between the Proposed substation and the existing overhead line at Clonmellon.

Applicant

- 1.10 The applicant is Knockanarragh Wind Farm Ltd. a wholly owned subsidiary of Statkraft Ireland. Statkraft is one of the biggest renewable energy developers in Ireland with over 4GW pipeline of offshore, onshore, solar and grid services projects. The Statkraft Ireland team, which is based in Cork and Tullamore, Co. Offaly, has constructed a portfolio of almost 350MW of renewable energy projects across the country, operates over 500MW, and has an established track record in wind energy in Ireland having previously developed previously wind farms in Counties Clare, Cork, Kerry, Donegal, Limerick, Galway, Waterford, Tipperary, Offaly, and Tyrone.

Outline of the Proposed Development

- 1.11 The Proposed Development will include a 52.8MW wind farm consisting of 8 No. wind turbines within two clusters with an overall ground to blade tip height of between 175m – 180m inclusive. The wind turbines will have a rotor diameter ranging from 155m to 162m inclusive and a hub height ranging from 97.5m to 99m inclusive.
- 1.12 The minimum and maximum parameters proposed in **Table 1-1** were identified from two specific turbines.

Table 1-1 Candidate Turbine Parameters to be Assessed.

Turbine Type	Tip Height (m)	Hub Height (m)	Rotor Diameter (m)	Foundation Size	Hardstand dimensions	Power Output
Siemens Gamesa SG155	175	97.5	155	21.5m diameter	50m x 20m	6.6MW
Vestas V162	180	99	162	28.4m diameter	82m x 30m	7.2MW

- 1.13 The final choice of turbine model will be dictated by the energy production efficiencies of various turbines on the market at the time of the turbine procurement. As a result, the exact specification of turbine is not available at the time of lodging this application. The following elements therefore cannot be confirmed:

- Hub Height,

- Rotor Diameter,
- Foundation Size, and
- Hardstand Dimensions.

- 1.14 The candidate turbines provide the minimum and maximum parameters for the rotor diameter and hub height. The installed wind turbine may not be either of the two candidate turbines but will be within the range of minimum and maximum parameters set out in **Table 1-1**. This EIAR has assessed both the minimum and maximum parameters of the hub height and rotor diameter which has allowed for an assessment of all permutations within the range. **Table 1-2** explains, for each environmental topic, which permutation will result in the greatest environmental effect and therefore allows for the assessment of all permutations within the range.
- 1.15 The design scenarios summarised in **Table 1-2** sets out the implications of the variation of design parameters for the assessment of each topic area, with a focus on those that have the potential to result in the greatest effect on an identified receptor or receptor group. Effects of greater than adverse significance are not predicted to arise should any variation within the design parameters in **Table 1-1** be taken forward in the final design scheme. Confidence can therefore be held that development of any permutation within the minimum and maximum design parameters in Table 1-1 will give rise to no worse effects than assessed in this EIAR.

Table 1-2 How the Design Parameters Were Assessed for Each Topic

Topic	Assessment Parameters
<p>Chapter 4 Population and Human Health</p>	<p>This chapter assesses all of the design permutations of the turbine dimensions, hardstand, foundations, and MW output for potential effects on Population Human Health, Socioeconomics, Recreation, and the Community Benefit Fund. The different permutations of design parameters will not result in significantly different development outcomes particularly in relation to MW Output. At outputs between 6.6MW and 7.2MW, the differences are marginal in that they do not change the significance of the effect in relation to employment and economic benefit.</p> <p>The assessment of Population and Human Health also provides an overview appraisal of the potential impact of a type and scale of development on local residents and communities, therefore the ultimate choice of specific design of wind turbines does not impact on the findings within it. However, where information is obtained from more detailed technical chapters, for example noise, air, and landscape, and where there are variations in impacts depending on design parameters, those findings are incorporated into the assessment on amenity and/or human health as appropriate.</p>
<p>Chapter 5 Biodiversity</p>	<p>In this topic, SLR undertook a Collision Risk Model (CRM) for birds incorporating the minimum/maximum spans of each candidate turbine model to produce two CRMs. CRM assessed the tip height with the lowest rotor swept height. The worst-case results were presented for impact assessment in the EIAR but there were no likely significant differences in the effects predicted between the two CRM models</p>

Topic	Assessment Parameters
	<p>(which also encompass all other options within the range). This was due to very small differences in lowest rotor swept heights (2m difference) and tip heights (5m difference) between the candidate turbine models i.e., the collision risk heights. Therefore, a similar number of birds are predicted to collide with the two different candidate turbine models (and all options within the range).</p> <p>For bat mitigation buffers, SLR has examined both sets of turbine dimensions and has presented the bat collision risk assessment for the turbine requiring the largest bat mitigation buffers (rotor diameter of 162m).</p> <p>The bat mitigation buffers for the turbines with a rotor diameter of 155m would be smaller than for the turbines with a rotor diameter of 162m but crucially, would still provide the 50 m separation distance of from blade tip to vegetation feature height required by best-practice guidance. This is because the bat buffer diameter reflects the turbine dimensions chosen.</p> <p>Regarding habitat loss, the bat mitigation buffer felling requirement for the 162m diameter turbine model are higher than the felling requirement for the 155m diameter model. The worst-case scenario for habitat loss was presented in relation to the turbine hardstand and foundation requirements for the turbines associated with the greater dimensions (turbine model with rotor diameter of 162m). While the habitat loss associated with the felling buffers, hardstands and foundations associated with the 155m turbine model is less, there are no likely significant differences in the effects predicted. This is because the amounts of habitat to be lost are of very similar orders of magnitude for the two candidate turbine models assessed (which includes all options within the range).</p>
<p>Chapter 6 Land Soils and Geology</p>	<p>The worst-case scenario assessed was in relation to the turbine hardstanding and foundation requirements with a 28.4m diameter foundation and an 82m by 30m hardstand rather than those with a 21.5m diameter foundation and 50m x 20m hardstand. Utilising the maximum dimensions within the range specified in Table 2-1 encompasses all design permutations of the dimensions and represents the maximum disturbance and therefore the maximum potential footprint / area of ground disturbance covered by the operational infrastructure.</p> <p>It is considered here that the potential significance of the 21.5m diameter foundation and 50m x 20m hardstand design would not result in a difference in significance of effect compared to the worst-case scenario, which is the 28.4 m diameter foundation and an 82m x 30m hardstand. This is because the assessment uses a matrix approach, whereby significance of effect is a function of the sensitivity of the receptor by the magnitude of the potential impact. The sensitivity (importance) of the receptors is inherent and cannot be changed in either design used, it is independent of the development proposed.</p> <p>For the potential magnitude of the impact, in the context of the 2 km baseline study area (in line with IGI guidance), the difference in area is estimated to be between 19,680 m² (worst case scenario) and 8,000 m² (other scenario) for the hardstanding's is considered to be marginal in the site context and does not result in a downgrading of the potential impact magnitude. Furthermore, it is considered that the only potential magnitude of impact that could be considered is a downgrading from "low" to "negligible" magnitude of impact on a receptor (during construction where geological are originally in situ), where relevant. This is not considered appropriate as it would imply that there is no measurable change to a receptor during construction, and in the case where there is change to land and geological features in either design scenario to allow hardstanding's to be constructed, a "negligible" impact magnitude is not considered appropriate. There will be a removal/disturbance to land and soils to create hardstanding's for example, this is a measurable change to a receptor, albeit a small loss of part of the geological receptor.</p>

Topic	Assessment Parameters
Chapter 7 Water	<p>Assessment was undertaken on a worst-case scenario which represents maximum disturbance and therefore the greatest potential for change to the water environment (hydrology and hydrogeology). This was based upon the turbine hardstanding requirements which encompassed a 28.4 m diameter foundation and an 82m x 30m hardstand rather than the 21.5m diameter foundation and 50m x 20m hardstand which would encompass a smaller area.</p> <p>This chapter assesses the Proposed Development, including the design parameters outlined in Table 2-1. Assessment was undertaken on the turbine hardstanding requirements for the V162 which encompassed a 28.4 m diameter foundation and an 82m x 30m hardstand as well as the 21.5m diameter foundation and 50m x 20m hardstand. Both turbine types have been assessed as part of this chapter, and the significance level was the same for both assessments.</p>
Chapter 8 Air and climate	<p>For this topic, all turbine permutations from the dimensions as set out in Table 1-1 above are covered. Air quality and climate resilience have been assessed for all turbine dimensions. The difference between the design parameters of the two turbine types are considered to be minimal and not significant in terms of air quality and climate resilience. A Carbon Analysis has been carried out and included as Appendix 8-1 found in Volume III of the EIAR accompanying this planning application. The carbon calculations for the Proposed Development are based on the two candidate turbine models have both been assessed against their impact on the national carbon budgets. Both are deemed to have a significant beneficial impact on the carbon budget over the life of the project with the larger model having a slightly more significant impact due to its greater power output.</p>
Chapter 9 Noise	<p>Noise modelling for both turbine types was carried out and assessed within the chapter. The worst-case scenario for construction noise was assessed, which is valid for all design permutations equally.</p> <p>The operational noise produced by a wind turbine varies between type (Vestas V162 will produce different levels of noise for any given wind speed than a Siemens Gamesa SG155 for example) therefore the assessment considers operational noise impacts from both turbine types discussed in the EIAR as there is a potential that they could be different. Construction noise will not be dependent on the turbine type – the noise associated with the excavation, and fabrication, of foundations (for example) will be the same regardless of what turbine type is installed on top of it.</p> <p>The operational noise modelling for the Proposed Development is based on these two turbine types to form a maximum/minimum scenario. Both turbine types were assessed as part of this chapter, and it is considered that all design permutations encompassed in Table 1-1 above have been assessed. Different turbine types produce different noise levels. The hub height has the potential to affect the noise impact at receptors, which in turn may affect significance of effect.</p>
Chapter 10 Landscape and visual	<p>All turbine dimensions have been assessed in the LVIA which encompass all dimensions as set out in Table 1-1 above. The difference between the design parameters of the two turbine types are considered to be minimal and not significant in terms of landscape and visual effects, however in terms of dimensions, the largest magnitude impact for Landscape and Visual is the 180m tip height which is shown in the photomontages.</p>
Chapter 11 Shadow flicker	<p>In this topic, SLR assessed both turbine models. We have included the shadow flicker results as Appendix 11-1 and 11-2 found in Volume III of the EIAR. The worst case scenario is defined as <i>“based on the sun shining during all daylight hours over the course of a year, no obscuring features (such as trees, hedges, other buildings) being present, the face of the rotor always being aligned towards the dwelling, and that the rotor is always turning (i.e. the wind is always blowing between</i></p>

Topic	Assessment Parameters
	<p>4m/s and 25m/s, and no account is taken of shut down periods for maintenance). This methodology yields a theoretical maximum indication of potential shadow flicker incidence, together with the times of day, and dates during the year when potential incidence may occur". The study area is determined by the rotor diameter and in this case, the rotor diameter of 162m or the maximum parameter is considered to be the worst-case scenario and covers all design permutations encompassed in Table 1-1. The design parameters of rotor diameter and distance from proposed turbines to receptors drive the impact on shadow flicker. Although, the rotor diameter of 162m or the maximum parameter results in effects on a marginally greater number of properties, both turbine models (rotor diameter of 155m and 162m) will be managed to ensure that shadow flicker is eliminated at all buildings..</p>
<p>Chapter 12 Cultural Heritage</p>	<p>In this chapter, the range of turbine dimensions was not a concern for effects upon the setting of cultural heritage assets, as there is only a marginal difference in turbine tip height. A settings assessment for the potential effects on cultural and archaeological assets in the study parameters for the Proposed Development was carried out, however the difference in design parameters between each turbine was minimal. The different permutations of design parameters did not affect the significance of the effect in relation to Cultural Heritage. The difference is considered to be imperceptible in terms of impact on the setting of cultural and archaeological assets.</p> <p>For direct impacts upon archaeological remains within the Proposed Development Site, the worst case scenario would be the larger dimensions of the hardstanding dimensions (82m x 30m), and therefore this was used to assess the potential direct impacts on archaeological features within the Proposed Development Site, as the larger footprint of 82m x 30m would have more potential for direct impacts compared to the hardstanding area of 50m x 20m. Overall, for both turbine types the significance of effects would not change; the heights of the turbines would not cause any variation in potential setting impacts, nor would the different dimensions of the turbines footprint cause changes to potential direct impacts upon archaeological remains.</p>
<p>Chapter 13 Material Assets, including Telecommunications / Aviation</p>	<p>Utility providers, including telecommunication companies, and aviation authorities were consulted on the basis of the upper limit of design parameters to be incorporated. None of those contacted raised any concerns with the Proposed Development within the maximum parameters, therefore it can be inferred that there will be no impact to services should these be implemented at a reduced scale.</p> <p>Ongoing engagement with Eirgrid and ESB Networks throughout the detailed design and implementation of the Proposed Development will ensure effective management of any variations between design parameters.</p> <p>Variations in hardstanding requirements depending on design parameters are assessed in Chapter 7, and these are not considered to have implications for material assets.</p>
<p>Chapter 14 Traffic/Transport</p>	<p>The worst-case scenario turbine due to blade length is the turbine with the rotor diameter of 162m which was assessed for all swept path analysis for the Proposed Development and the worst-case scenario of trips (infrastructure delivery, materials) has been assessed based on the worst-case scenario of these infrastructural requirements. The worst case includes larger turbine components including a longer blade length. This assessment covers all design permutations encompassed in Table 1-1. The different permutations of design parameters did not affect the significance of the effect in relation to Traffic. The turbine with the rotor diameter of 155m will result in a marginally smaller swept path however the significance of the effect will remain unchanged because all turbines within the range must still be delivered to the site.</p>

Topic	Assessment Parameters
Chapter 15 Major accidents and Natural disasters	This chapter assesses the design permutations of the turbine dimensions as set out in Table 1-1 above, hardstand, foundations against the effects identified in the Major accidents and Natural disasters Chapter. The different permutations did not affect the significance of the effect in relation to major accidents and natural disasters.
Chapter 16 Interactions of the Foregoing	As set out within each of the technical headings above, the actual variation in impacts depending on final selection of design parameters was considered to be minimal. The purpose of assessment of interactions of effects is to ensure that potential for any additional interactive effects over and above those considered within respective technical assessments is identified. Given the minimal difference that has been identified between effects of design parameters it is not considered that there will be any implications for potential interactions depending on ultimate design parameters selected. There will be no change to the potential impacts or predicted effects irrespective of which turbine dimensions are selected within the design parameters outlined.

- 1.16 The associated cable routes will consist entirely of underground cable and will connect the Main Wind Farm Development Site to a Proposed Substation in Clonmellon.
- 1.17 The Turbine Delivery Route (TDR) will be facilitated to the site from Dublin port and delivered along one distinctive route, refer to **Figure 1-3: Turbine Delivery Route**.

Permission Period

- 1.18 The 2006 Wind Energy Development Guidelines state that “Planning Authorities may grant permission for a duration longer than 5 years if it is considered appropriate, for example, to ensure that the permission does not expire before a grid connection is granted.” It is, however, the responsibility of the applicants to request such longer durations in appropriate circumstances. This text is also repeated in the 2019 Draft Wind Energy Development Guidelines (2019).
- 1.19 Planning consent is sought for a 10-year period to facilitate the construction of the Proposed Development.
- 1.20 Section 7.20 of the 2006 Wind Energy Development Guidelines states the following:
 - a) *‘The inclusion of a condition which limits the life span of a wind energy development should be avoided, except in exceptional circumstances.’*
- 1.21 The Applicant requests an operational period of 35 years which would commence once the Proposed Development is functioning. At the end of the operational period, the developer will either decommission the Proposed Development within the Main Wind Farm Development Site or, subject to planning permission, seek a planning extension to continue operating. The Proposed Substation, the 110kV cable from this substation to the existing overhead line and 33kV from cable linking this to the Main Wind Farm Development Site will continue to exist on a permanent basis. A permanent planning permission is being sought for these elements.
- 1.22 The applicant respectfully requests that its 10-year planning permission is granted in addition to a 35-year operational period.

Planning Application and EIAR Requirement

Strategic Infrastructure Development Planning Process

- 1.23 The Planning and Development Act 2000, as amended (The Act) requires that certain applications for permission for major infrastructure projects are made directly to An Bord Pleanála, rather than to the local planning authority, as would have previously been the case.
- 1.24 In order to commence the pre-application consultation required to confirm if development is classified as ‘Significant Infrastructure Development (SID)’ under section 37B of the Act, a Proposed Development must be a development specified in the Seventh Schedule to the 2000 Act. Paragraph 1 of the Seventh Schedule, specifies, inter alia, the following:
‘An installation for the harnessing of wind power for energy production (a wind farm) with more than 25 turbines or having a total output greater than 50 megawatts’.
- 1.25 Thereafter, the Board must satisfy itself that the Proposed Development would, if carried out, fall within one or more of the following paragraphs set out in subsection 37A (2) of the 2000 Act, namely:
‘(a) the development would be of strategic economic or social importance to the State or the region in which it would be situate,
(b) the development would contribute substantially to the fulfilment of any of the objectives in the National Planning Framework or in any regional spatial and economic strategy in force in respect of the area or areas in which it would be situated,
(c) the development would have a significant effect on the area of more than one planning authority.’
- 1.26 In July 2022, the Applicant wrote to An Bord Pleanála to formally request a pre-application consultation meeting under Section 37B (and Section 182E) of the Planning and Development Act, 2000 (as amended), in respect of the Proposed Development.
- 1.27 Following pre-application consultations held on 21st September 2022 and on 6th March 2023, An Bord Pleanála issued a notice to the Applicant and SLR on 24th August 2023 under ABP Ref: [314271-22](#)) indicating its determination that the Proposed Development is SID in accordance with the provision of Section 37A (2) (a), (b) and (c) of the 2000 Act and, accordingly, an application for permission should be made directly to An Bord Pleanála in accordance with the requirements of Section 37E of the Planning and Development Act, 2000 (as amended).

Correspondence and detail relating to the pre-application consultation process undertaken are included as an Addendum to the Planning Application Form.

Requirement for Competent Authority to Conduct an EIA

- 1.28 The European Union Directive 2011/92/EU (the EIA Directive) as amended by Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment, requires Member States to ensure that a competent authority carries out an appraisal of the environmental impacts of certain types of projects, as listed in the Directive, prior to development consent being given for the project. In accordance with the EIA Directive and national planning legislation, the planning application is accompanied by this EIAR to assist the competent authority in conducting its EIA.

Appropriate Assessment

- 1.29 In compliance with the provisions of Article 6(3) of 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (as amended) (the Habitats Directive), as implemented by Part XAB of the 2000 Act, in circumstances where a proposed plan or project not directly connected with or necessary to the management of the European site is likely to have a significant effect on a European (or Natura 2000) site, either individually or in combination with other plans or projects, an Appropriate Assessment (AA) must be undertaken by the competent authority of the implications for the site in view of the site's conservation objectives.
- 1.30 European Sites include Special Areas of Conservation (SAC) designated under the Habitats Directive, Special Protection Areas (SPA) designated under the Birds Directive (2009/147/EEC) (as amended) and candidate SACs (cSACs) or proposed SPAs (pSPAs), all of which are afforded the same level of protection as fully adopted sites.
- 1.31 The assessment procedure is based on a four-stage approach, where the outcome at each successive stage determines whether a further stage in the process is required.
- 1.32 The purpose of the screening stage is to determine, in view of best scientific knowledge and objective evidence, whether a plan or project, alone and in-combination with other plans or projects, could have significant effects on a Natura 2000 site in view of the site's conservation objectives. There is no necessity to establish such an effect; it is merely necessary for An Bord Pleanála to determine that there may be such an effect. The threshold at this first stage is a very low one and operates as a trigger in order to determine whether a Stage Two AA must be undertaken by the competent authority on the implications of the Proposed Development for the conservation objectives of a European site. Where significant effects are likely, uncertain, or unknown at screening stage, a second stage AA will be required.
- 1.33 A Stage Two Appropriate Assessment is a focused and detailed examination, analysis and evaluation carried out by the competent authority (in this case, An Bord Pleanála) of the implications of the plan or project, alone and in-combination with other plans and projects, on the integrity of a European site in view of that site's conservation objectives.
- 1.34 In the context of the proposed development, an Appropriate Assessment Screening Report and Natura Impact Statement have been prepared and submitted to An Bord Pleanála with this application for permission under separate cover.

EIAR Methodology and Structure

- 1.35 The Environmental Impact Assessment Report (EIAR) is a report of the likely significant environmental effects, if any, which a Proposed Development, if carried out, would have on the environment. The EIAR provides the competent authority and the public with a comprehensive understanding of the project, the existing environment, the likely significant effects of the project and the mitigation measures proposed.
- 1.36 Article 3 of the 2014 EIA Directive states that an environmental impact assessment shall identify, describe, and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:
- 'population and human health,
 - biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC,

- land, soil, water, air, and climate,
- material assets, cultural heritage, and the landscape,
- the interaction between the factors referred to in points (a) to (d)

EIAR Methodology

- 1.37 The EIAR has been prepared in accordance with Article 5 of the EIA Directive which sets out the information to be contained in an EIAR.
- 1.38 It has also been prepared in accordance with:
- Planning and Development Act 2000, namely ‘Part X Environmental Impact Assessment’,
 - Planning and Development Regulations 2001,
 - Part 10
 - Article 94 regarding ‘Content of an EIAR’.
 - ‘Schedule 6 Information to be contained in EIAR Paragraph 1 and 2
 - S.I. No. 296/2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.
- 1.39 The assessment of environmental impacts has been conducted in accordance with the guidance set out in the following:
- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (EC, 2017),
 - 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 (DoHPLG, 2018),
 - Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006),
 - Draft Revised Wind Energy Development Guidelines (DoHPLG, 2019), and
 - European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, EU 2013.

Scoping

- 1.40 At the outset of preparing this EIAR, a scoping exercise to identify possible impacts of the Proposed Development was carried out to ensure that all relevant topic areas were considered in the EIA process. Consultation with the prescribed bodies and other private and public agencies was carried out to ensure that the most potentially significant impacts and the areas of key concern were identified. Details of Scoping and Community Consultation is provided later in this chapter and, where relevant, within the technical ch.

Impact Assessment

- 1.41 In preparing this EIAR, the applicant has addressed the requirements of Schedule 6 of the Planning and Development Regulations 2001 (as amended) which describes the information to be contained in EIAR:

1.
 - a. *'A description of the proposed development comprising information on the site, design, size, and other relevant features of the proposed development.*
 - b. *A description of the likely significant effects on the environment of the proposed development.*
 - c. *A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent, or reduce and, if possible, offset likely significant adverse effects on the environment of the development.*
 - d. *A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment.*
2.
 - a. *Additional information, relevant to the specific characteristics of the development or type of development concerned and to the environmental features likely to be affected, on the following matters, by way of explanation or amplification of the information referred to in paragraph 1:*
 - b. *a description of the proposed development, including, in particular—*
 - (i) *a description of the location of the proposed development,*
 - (ii) *a description of the physical characteristics of the whole proposed development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases,*
 - (iii) *a description of the main characteristics of the operational phase of the proposed development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil, and biodiversity) used, and*
 - (iv) *an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases;*
 - c. *a description of the reasonable alternatives (for example in terms of project design, technology, location, size, and scale) studied by the person or persons who prepared the EIAR, 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;*
 - d. *a description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge;*
 - e. *a description of the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment' in section 171A of the Act likely to be significantly affected by the proposed development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydro morphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape;*

- f.
 - i. a description of the likely significant effects on the environment of the proposed development resulting from, among other things—
 - ii. the construction and existence of the proposed development, including, where relevant, demolition works,
 - iii. the use of natural resources, in particular land, soil, water, and biodiversity, considering as far as possible the sustainable availability of these resources,
 - iv. the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste,
 - v. the risks to human health, cultural heritage, or the environment (for example due to accidents or disasters),
 - vi. the cumulation of effects with other existing or approved developments, or both, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources,
 - vii. the impact of the proposed development on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the proposed development to climate change, and
 - viii. the technologies and the substances used, and
 - ix. the description of the likely significant effects on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment' in section 171A of the Act should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium term and long-term, permanent and temporary, positive and negative effects of the proposed development, taking into account the environmental protection objectives established at European Union level or by a Member State of the European Union which are relevant to the proposed development;
- g) a description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved;
- h) a description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of an analysis after completion of the development), explaining the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset during both the construction and operational phases of the development;
- i) description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive or relevant assessments carried out pursuant to national legislation may be used for this purpose, provided that the requirements of the Environmental Impact Assessment Directive are met. Where appropriate,

this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for, and proposed response to, emergencies arising from such events Structure of this EIAR. ‘

- 1.42 The need for and design evolution of the Proposed Development is described in **Chapter 3**. This sets the reader in context as to the practical and dynamic process undertaken, in order to arrive at the layout and design of the Proposed Development that will cause least impact on the environment. The description of development is found in **Chapter 2**.
- 1.43 **Chapters 5-17** deal with specific environmental topics, for example, traffic & transportation, air quality & climate change, hydrology & water quality, noise, etc. These assessments involve specialist studies and evaluations. The methodology applied during these specific environmental assessments is a systematic analysis of the Proposed Development in relation to the existing environment. The broad methodology framework for these assessments is outlined below and is designed to be clear, concise and allow the reader to logically follow the assessment process through each environmental topic. In some instances, more specific topic related methodologies are outlined in the relevant chapters of the EIAR. **Chapter 17** presents a schedule of mitigation measures across all topic areas, based on the findings of the technical assessments outlined in the previous chapters.
- 1.44 The methodology framework used for the production of all chapters include:
- Introduction,
 - Methodology,
 - Existing environment,
 - Consideration of Significant Effects,
 - Mitigation measures,
 - Cumulative impacts; and
 - Residual impacts.

Introduction

- 1.45 This section generally introduces the environmental topic to be assessed and the areas to be examined in the assessment.

Methodology

- 1.46 Specific topic related methodologies are outlined in this section. This will include the methodology used in describing the existing environment and undertaking the impact assessment. It is important that the methodology is documented so that the reader understands how the assessment was undertaken. This can also be used as a reference if future studies are required if the Proposed Development progresses.

Existing Environment

- 1.47 An accurate description of the existing environment is necessary to predict the likely significant impacts of a Proposed Development. Existing baseline environmental monitoring data can also be used as a valuable reference for the assessment of actual impacts from a development once it is in operation.
- 1.48 To describe the existing environment, desktop reviews of existing data sources were undertaken for each specialist area. This literature review relied on published reference reports and datasets to ensure the objectivity of the assessment.

- 1.49 Desktop studies may also be supplemented by specialised field walkovers or studies in order to confirm the accuracy of the desktop study or to gather more baseline environmental information for incorporation into the EIAR.
- 1.50 The existing environment is evaluated to highlight the character of the existing environment that is distinctive and what the significance of this is. The significance of a specific environment can be derived from legislation, national policies, local plans, and policies, guidelines, or professional judgements. The sensitivity of the environment is also described.
- 1.51 A “Do Nothing” scenario is included within each chapter heading which provides an accurate description of the existing baseline and outlines the effects of a do-nothing approach, i.e., if the Proposed Development did not commence.

Consideration of Significant Effects

- 1.52 In this section, individual specialists predict how the receiving environment will interact with the Proposed Development. The full extent of the Proposed Development’s potential effects before the proposed mitigation measures are introduced is outlined here. Potential impacts from the construction, operational and decommissioning phases of the Proposed Development are outlined. Interactions and cumulative impacts with other environmental topics are also included in this evaluation.
- 1.53 The evaluation of the significance of the impact is also undertaken. Where possible, pre-existing standardised criteria for the significance of impacts will be used.
- 1.54 Such criteria can include Irish legislation, international standards, European Commission and Environmental Protection Agency (EPA) guidelines or good practice guidelines. Where appropriate criteria do not exist the assessment methodology section states the criteria used to evaluate the significance.
- 1.55 A description of the expected significant adverse effects deriving from the Proposed Development’s vulnerability to the risks of major accidents and/or disasters is also carried out.

Mitigation Measures

- 1.56 If significant impacts are anticipated mitigation measures are devised to minimise impacts on the environment. Mitigation measures by avoidance, by reduction and by remedy can be outlined.

Residual Impacts

- 1.57 The assessment identifies the likely impact that will occur after the proposed mitigation measures have been put in place. These impacts are described in detail and assessment of their significance undertaken.

Approach to the Wind Energy Development Guidelines

- 1.58 The Proposed Development has been designed, sited, and assessed in compliance with the Wind Energy Development Guidelines (2006) which are the guidelines currently in effect at the time of preparation of this EIAR. The Draft Revised Wind Energy Development Guidelines (2019) are at draft stage and have not been formally adopted by the government. However, the assessment of this Proposed Development has had regard to the draft guidelines and has provided for key elements set out in the guidelines such as:

- A minimum setback distance of 4x tip height to the nearest residential receptor,
 - A policy of zero shadow flicker at nearby existing dwellings or other affected properties as set out in **Chapter 1**,
 - Revised noise limits as detailed in **Chapter 9**, and
 - The provision of an underground cable connection.
- 1.59 The design and siting of the Proposed Development has taken account of the Draft Revised Wind Energy Guidelines and it is considered that the Proposed Development is in compliance with the key elements of the Draft Wind Energy Development Guidelines (2019) as noted above.

EIAR Structure

- 1.60 The format of this EIAR is designed to ensure that standard methods are used to describe all sections of the EIAR. There is a separate chapter for each topic, e.g., biodiversity, water, etc. The description of the existing environment, the Proposed Development and the potential impacts, mitigation measures and residual impacts are grouped in each chapter. The grouped format makes it easy to investigate topics of interest and facilitates cross reference to specialist studies. Additionally, there is a need to ensure that the EIAR is readily accessible to the general public, as well as statutory authorities. With this in mind, the EIAR is structured as follows:
- Chapter 1: Introduction,
 - Chapter 2: Description of the Development,
 - Chapter 3: Alternatives,
 - Chapter 4: Population and Human Health,
 - Chapter 5: Biodiversity,
 - Chapter 6: Land, Soils and Geology,
 - Chapter 7: Water,
 - Chapter 8: Air and Climate,
 - Chapter 9: Noise and Vibration,
 - Chapter 10: Landscape and Visual,
 - Chapter 11: Shadow Flicker,
 - Chapter 12: Cultural Heritage,
 - Chapter 13: Material Assets,
 - Chapter 14: Traffic and Transportation,
 - Chapter 15: Major Accidents and Disasters,
 - Chapter 16: Interactions of the Foregoing, and
 - Chapter 17: Schedule of Mitigation Measures.
- 1.61 The structure of this EIAR is as follows:
- Volume I – Non-Technical Summary (NTS),
 - Volume II – Main EIAR,
 - Volume III – Appendices to the Main EIAR, and
 - Volume IV – Landscape and Photomontages.
- 1.62 A Natura Impact Statement (NIS) has also been submitted with the planning application. The planning application is also supported by a Planning Statement and planning drawings.

Cumulative Impact

- 1.63 The potential cumulative impact of the has been assessed in line with Annex IV of the EIA Directive which provides that the EIAR must contain a description of the likely significant effects of the Project on the environment resulting from the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.
- 1.64 The assessment of the Project in combination with other projects has four principal aims:
1. To establish the range and nature of existing projects within the cumulative impact study area of the Project.
 2. To summarise the relevant projects which have a potential to create cumulative impacts.
 3. To establish anticipated cumulative impact findings from expert opinions within each relevant field. Detailed cumulative impact appraisals are included in each relevant section of the EIAR.
 4. To identify the projects that hold the potential for cumulative or in combination effects and screen out projects that will neither directly or indirectly contribute to cumulative or in combination impacts.
- 1.65 Assessment material was gathered through a search of Westmeath and Meath County Council's Online Planning Registers, Reviews of relevant EIA documents, information within the EIA Portal, Planning application details and planning drawings. These documents serve to identify past and future projects, their activities, and their environmental impacts.
- 1.66 The relevance of the projects selected for the cumulative impact were considered on a case-by-case basis in each chapter as necessary depending on the interaction and the likelihood of in-combination impacts. Projects identified for cumulative assessment are set out in **Appendix 1-1** and **Figure 2-4** of this EIAR.

Contributors to the EIAR

- 1.67 SLR Consulting is a global planning and environmental consultancy with offices across the island of Ireland in Dublin, Cork, Kilkenny, and Belfast. SLR is well established as a leading consultancy in both onshore and offshore wind farm development in the UK, with an increasing presence in Ireland. The company has a well-established professional team which specialise in wind farm development across the UK and Ireland. This team has the support of a large team of in-house engineers, planners, and technical disciplines. SLR also have retained the services of Macro Works, a well-respected Irish based landscape consultancy for the provision of landscape and visual assessment for this project.
- 1.68 SLR consulting was retained by the application to undertake the detailed environmental assessment and prepare the EIAR for the Proposed Development, as well as preparing the relevant SID planning application for consent to An Bord Pleanála.
- 1.69 Specialist and competent contributors including surveyors involved in the preparation of the EIAR, including their experience in each relevant chapter is provided in **Table 1-3** below. This demonstrates the experience and expertise of each respective contributor.

INTRODUCTION 1

Table 1-3 Contributors to the EIAR

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
Chapter 1 Introduction	SLR	The chapter was prepared by Aislinn O'Brien, MSc, MCD, MIPI, MRTPI. Aislinn is a chartered town planner with over 16 years professional planning experience. During this time Aislinn has project managed and coordinated numerous planning applications and EIARs.	16
		Paula McCarthy, BSc, MSc also contributed to the chapter. Paula is an Associate Planning & Development Surveyor with SLR with over 18 years' professional experience in relation to preparing and submitting planning applications and Environmental Impact Assessment Reports for a broad range of development proposals throughout Ireland.	18
Chapter 2: Description of the Development	SLR	The chapter was prepared by Aislinn O'Brien, MSc, MCD, MIPI, MRTPI with input from the Applicant and Darren Keogh, a Technical Director within the Civil & Structural Engineering team at SLR. Aislinn is a chartered town planner with over 16 years professional planning experience. During this time Aislinn has project managed and coordinated numerous planning applications and EIARs.	16
		Darren Keogh is a Civil Engineer with over 22 years' experience working mainly with Clients in the Renewable Energy, Electrical Transmission, Recycling/Waste and Development sectors. He has a wide variety of experience as a designer in these and other sectors and is now principally a Framework/Project Manager on a number of large and varied engineering projects. Darren's design and project management skills are largely through experience on projects such as sub-stations, transmission route assessment, road schemes, surface water schemes, windfarms, demolition contracts, road designs, bridge assessments, design of waste/recycling facilities, and site investigations for a variety of different types of infrastructure.	22
Chapter 3: Alternatives	SLR	The chapter was prepared by Edward Goulding, BA, MSc. Edward is a Project Planner at SLR and is a graduate from Queens University Belfast. Edward has worked on an array of projects in the energy sector, including tasks on various appraisals, due diligence reports, co-ordination and contribution to Environmental Impact Assessment reports, Planning Statements and conducting policy and legal research.	2
		Lynn Hassett, BSc (Hons), MSc, PIEMA also contributed to the chapter. Lynn has extensive experience in the field of EIA, SEA/SA and has experience in general planning at strategic and local level. Lynn has extensive experience in co-ordinating large multi-disciplinary teams for EIA projects and undertaking Sustainability Appraisal (incorporating Strategic Environmental Assessment) of planning policy documents.	14

INTRODUCTION 1

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
		Lynn was previously employed by the Institute of Environmental Management and Assessment to review the quality of Environment Impact Assessment work on behalf of local authorities in the UK.	
Chapter 5: Biodiversity	SLR	The chapter has been reviewed by Richard Arnold BSc MRes MCIEEM CEnv. Richard has over 24 years of experience as a professional ecological consultant. This experience includes work on some of the largest development projects in the UK and Ireland, as well as some work in the Middle East. Richard has worked on projects in most development sectors, including pipelines, cable routes, railways, roads, urban regeneration, ports, power stations and renewable energy projects, such as wind farms, and at all stages of the development process, from design to completed development.	23
		The chapter has been written by Jonathon Dunn MA (Cantab.) MSc PhD MCIEEM. Jonathon also undertook habitat surveys, mammal surveys and bat surveys. Jonathon has worked in the environmental sector since 2014 and joined SLR Consulting in 2021. Prior to working in environmental consultancy, he used to undertake research at Newcastle University on avian ecology and conservation. He holds a PhD in avian ecology from Newcastle University, a MSc in Ecology, Evolution and Conservation from Imperial College London and a MA (Cantab.) in Natural Sciences from the University of Cambridge. Jonathon has extensive experience undertaking and managing bird surveys, along with bat, botanical and mammalian surveys. Jonathon has worked on a wide variety of projects with a focus on wind farms.	8
		The chapter has also been written by Sinéad Clifford BSc (Hons). Sinéad also undertook habitat surveys, mammal surveys and bat surveys (including call analysis). Sinéad has worked in the environmental sector since 2015 and joined SLR Consulting in 2021. She holds a BSc. in Wildlife Biology from Institute of Technology Tralee, and a Certificate (Distinction) in Ecological Consultancy from Ecology Training UK (formerly Acorn Ecology). Sinéad has strong field skills, and regularly carries out bat, ornithological, botanical and mammalian surveys. In addition, she has extensive experience managing bat surveys for large scale projects, including wind energy developments.	8
		The collision risk modelling report was written by Michael Austin. Mike is an Associate Ecologist with SLR. He has over 30 years' experience within ecology and ornithology, both in conservation and consultancy. He has experience of ECoW work at a number of sites (predominantly at wind farms but also in other sectors). Mike has managed the ornithological survey, assessment, and reporting input on a wide range of major EIA projects, in particular within the renewables industry. Before joining the consultancy industry Mike worked within conservation on species recovery projects and habitat management, for RSPB and local wildlife trusts.	30

INTRODUCTION 1

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
		<p>The aquatic ecology and fisheries reports were written by Ross Macklin PhD (in preparation) B.Sc. (Hons) MCIEEM., MIFM, HDip GIS, PDip IPM (Principal ecologist with Triturus Environmental Ltd). Ross is an ecologist with over 16 years' professional experience in Ireland. He specialises in freshwater fisheries ecology, biology, and water quality. He has considerable experience in a wide range of ecological and environmental projects including EIAR, EclA, AA/NIS, CEMP reporting, as well as biodiversity, water quality monitoring, invasive species, and fisheries management. He also has expert identification skills in macrophytes, freshwater invertebrates, protected aquatic habitats and protected aquatic species including freshwater pearl mussel.</p>	16
		<p>The Annex I habitat surveys and reports were undertaken and written by Sharon Spratt BSc (Hons), PhD, associate member of CIEEM and full member of Institution of Environmental Sciences (IES). Sharon has 14 years of post-graduate experience with specialisms in habitat mapping, botanical surveys, and conservation management. At the time of the surveys, she was working as an independent field ecologist for the National Fen Survey of Ireland for the past two years. Sharon is also a county recorder with the Botanical Society of Britain and Ireland.</p>	14
		<p>Some of the bat surveys and reports were undertaken and written by Isobel Abbott PhD. Isobel is an independent ecological consultant, with >15 years of experience in bat ecology, bat survey, assessment, and mitigation. Isobel has a BSc (Hons) in Zoology from UCC, where she also obtained a PhD on the effectiveness of bat mitigation measures employed in Irish national road schemes. She currently holds nationwide NPWS licences to capture and handle bat species, and to disturb bat roosts for the purposes of ecological impact assessment.</p>	15
		<p>MKO personnel carried out bird surveys and wrote the baseline bird reports.</p> <p>The year 1 report was prepared by Andrew O'Donoghue (B.Sc.), an Ornithologist with MKO and Project Director, Dervla O'Dowd (B.Sc.). The field surveys were undertaken by Andrew O'Donoghue, Eric Dempsey, Declan Manley, and Kristina O'Connor all of whom are competent experts in bird surveying.</p> <p>The year 2 report was prepared by Patrick Manley (B.Sc.) a Project Ornithologist with MKO. The field surveys were undertaken by Athena Michaelides, Andrew O'Donoghue, Declan Manley, Kristina O'Connor, Niall McHugh, Peter Capsey and Paul Troake, all of whom are competent experts in bird surveying.</p>	Various

INTRODUCTION 1

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
		The year 3 report was prepared by Donnacha Woods (B.Sc., M.Sc.) a Project Ornithologist with MKO. The field surveys were undertaken by Kate Bismilla, Declan Manley, Tom Rea, Niall McHugh, Ian Hynes, and Laura Hynes, all of whom are competent experts in bird surveying.	
Chapter 6: Land, Soils and Geology	SLR	The chapter was prepared by Paul Gordon, BSc, MSc. Paul is a Technical Director with SLR Consulting, with over 25 years' experience in the resources industry. He leads exploration management teams, assesses mining properties, and authors public reports for mining clients. He has also advised governments and government bodies on policy, regulations, and guidelines. Paul is a Professional Geologist, registered with the Institute of Geologists of Ireland.	25
		Hannah McGillycuddy (MIT) of SLR Consulting also worked on the assessment. Hannah has a BSc in Geology and an MSc in Exploration Field Geology and has 6 years' professional experience in writing land, soils and geology chapters for EIARs in Ireland.	6
Chapter 7: Water	SLR	The chapter has been led and reviewed by Dominica Baird BSc (Earth Science), MSc (Hydrogeology), CGeol, EurGeol. Donna is a Technical Director (Hydrogeology) and has over twenty years' experience in environmental consulting, specialising in hydrogeology and water. Dominica's areas of expertise cover hydrogeology, groundwater risk assessment and contaminated land with experience gained in London, Edinburgh, and Dublin. She has worked on various renewable projects, mainly wind farms, as well as cable routes in Ireland and Scotland as lead hydrogeologist and has undertaken field surveys including installation of groundwater monitoring wells, water supply surveys and peat surveys. Dominica has presented findings of hydrogeological assessments at oral hearings and prepared briefs of evidence in arbitration cases. Examples of major projects include EirGrid Laois-Kilkenny Reinforcement Scheme and East-West Interconnector.	20
		The chapter was prepared by Kristian Divjak BSc (Civil Engineering), MSc (Water Resources) is a civil engineer with over 7 years of experience in flood risk assessments, hydraulics, and drainage design. Throughout his career he has worked on projects in Croatia and Ireland. He has worked on numerous renewable energy projects, flood risk assessments and drainage design. He has inspected various sites for potential wind farm and solar farm developments.	7
		Orlaith Tyrrell BSc (Geology) also contributed to the chapter preparation. Orlaith is a Project Hydrogeologist with 2 years' experience working in groundwater consultancy. She is a member of the Institute of Geologists	2

INTRODUCTION 1

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
		of Ireland (IGI) and of the International Association of Hydrogeologists (IAH). Orlaith has worked on multiple scale renewables projects and has co-authored several EIAR Water chapters for wind farm developments.	
Chapter 8: Air and Climate	SLR	The chapter was reviewed by Luke Moseley, BSc (Hons), PGDip. Luke is a Senior Carbon Consultant at SLR who has been responsible for the management of greenhouse gas and energy data with the creation of GHG inventories across a variety of projects. Prior to SLR, Luke had three years of experience in emission monitoring across a variety of industrial sites including energy from biomass such as the Holbrook biomass plant in Sheffield UK.	5
		The chapter was prepared by Conor Hughes BSc MSc. Conor is an Environmental Consultant in the EMPC team in SLR's Dublin office. During his time in the role Conor has gained various experiences such as environmental monitoring for planning compliance, including EIA report writing for air quality, climate, and noise sections of windfarm and mining and minerals reports, due diligence and audit reports, surface and groundwater monitoring for planning applications, soil / waste quality results screening, windfarm baseline noise monitoring, site work and data collection, and windfarm carbon budget analysis.	2
Chapter 9: Noise and Vibration	Bow Acoustics	The noise impact assessment was led by Richard Carter CEng, BEng (Hons), PG Dip Acoustics and Noise Control, MIOA, who is a Director of Bow Acoustics He has expertise and experience with wind turbine noise and has worked on over 50 wind farms across the UK and Republic of Ireland. For the past 13 years Richard has taken a leading role in wind turbine noise assessments both onshore and offshore.	15
		The lead consultant for the baseline noise surveys in Ireland is Aldona Binchy MSc. Eng PIEMA, MIAH, AAG Environmental Engineering, Aldona is a Principal consultant at SLR with over 19 years' experience in noise surveys and noise assessments. In 2005 she has completed the Environmental Noise Competency Course with INVC (Industrial Noise & Vibration Centre), and she has been working with noise matters since then.	19
Chapter 10: Landscape and Visual	Macro Works	This Landscape and Visual Impact Assessment was prepared Richard Barker BA, PGDip, MLA, Principal Landscape Architect at Macro Works Ltd, a specialist LVIA company with over 20 years of experience in the appraisal of effects from a variety of energy, infrastructure, and commercial developments. Relevant experience includes LVIA work on over 140 onshore wind farm proposals throughout Ireland, including six Strategic Infrastructure Development (SID) wind farms. Macro Works and its senior staff members are affiliated with the Irish Landscape Institute.	25

INTRODUCTION 1

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
Chapter 11: Shadow Flicker	SLR	The chapter has been prepared by Tim Doggett, BSc (Hons), MSc WASP. Tim has been practicing EIA for over 10 years. He has been involved in projects both as technical specialist and EIA project manager on an almost continual basis throughout the last 13 years. Tim’s project experience covers wind energy, solar energy, and battery storage, and identifying the opportunities for renewable energy deployment. Contributions to Environmental Statements include project description chapters, infrastructure, telecommunication and utility chapters, shadow flicker analysis and chapters (in accordance with EN3, Specific Advice Sheet: Onshore Wind and other relevant legislation)), as well as comprehensive GIS skills including ARCGIS, Mapinfo, WindFarm and Infracore.	10
Chapter 12: Cultural Heritage	SLR	The chapter was led and reviewed by Chris Morley BA, MPhil, MCIfA. Chris is a Technical Director at SLR with over 15 years’ experience in commercial heritage and archaeology. He has managed hundreds of Cultural Heritage Assessments including large numbers of Environmental Impact Assessments. Chris also brings expertise to the area of heritage planning policy and case law, and the role of both within the wider planning system. He regularly acts as an expert witness at public inquiry.	15
		The chapter was prepared by Beth Gray BA, MA, ACIfA is an Associate Archaeologist with SLR with over six years of experience. She has worked on a wide range of sites ranging from large individual watching briefs to large excavations of national importance. Since joining SLR in 2019 Beth has taken on projects such as MATTEs (Major Accident to the Environment) Assessments and creating Cultural Heritage Chapters to be included in larger Environmental Impact Assessments for both on and offshore windfarm developments. Beth’s time at SLR has been dedicated to writing complex Archaeology and Cultural Heritage Impact Assessments for large scale S36 windfarms to accompany planning applications. This has required a detailed knowledge of Scottish Planning Policy and guidance supplied by Historic Environment Scotland and NatureScot.	6
		Gwynnaeth McCullough, MA, MBSCc, was co-author for the chapter. Gwynnaeth is a Project Archaeology and Heritage Consultant at SLR with over two years of experience, including involvement in number of wind farm schemes, contributing to, or completing assessments of direct and indirect impacts and EIA reports for projects in the UK and Ireland.	2
Chapter 13: Material Assets	SLR	The chapter was prepared by Lynn Hassett, BSc (Hons), MSc, PIEMA (refer to Chapter 3 above for further detail on Lynn’s experience).	14

INTRODUCTION 1

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
Chapter 14: Traffic	SLR	The chapter has been prepared by Joanna Read, BSc MSc MCIHT, employed by SLR Consulting. Joanna has 20 years' experience in the field of transport planning. Joanna has nine years' experience with preparing environmental impacts assessment chapters and nine years' experience with energy projects. Joanna has over twenty years' experience preparing transport assessments for a range of development types.	20
		David Price, Technical Director at SLR prepared the turbine delivery route assessment. David Price, IEng, HNC, has over 30 years of experience as a highway engineer and has over 10 years of experience working on a range of wind farms.	30
Chapter 15: Major accidents and Natural disasters	SLR	The chapter was prepared by Edward Goulding, BA, MSc. and checked by Lynn Hassett, BSc (Hons), MSc, PIEMA (refer to above in table for further detail on Edward and Lynn's experience).	2 + 14
Chapter 16: Interactions	SLR	The chapter was prepared by Gwynaeth McCullough, MA, MBSCc, who is a Project Archaeology and Heritage Consultant at SLR with over two years of experience, including involvement in number of wind farm schemes, contributing to, or completing assessments of direct and indirect impacts and EIA reports for projects in the UK and Ireland. The chapter was also prepared by Lynn Hassett, BSc (Hons), MSc, PIEMA (refer to above in table for further detail on Lynn's experience). The chapter was also reviewed by Aislinn O'Brien, MSc, MCD, MIPI, MRTPI. Aislinn is a chartered town planner with over 16 years professional planning experience. During this time Aislinn has project managed and coordinated numerous planning applications and EIARs.	2 + 14 + 16
Chapter 17: Schedule of Mitigation Measures	SLR	The chapter was prepared by Lynn Hassett, BSc (Hons), MSc, PIEMA and reviewed by Aislinn O'Brien, MSc, MCD, MIPI, MRTPI. (refer to above in table for further detail on Lynn and Aislinn's experience).	14 + 16
EIA Co-ordination	SLR	EIA Co-ordination was carried out by by Aislinn O'Brien, MSc, MCD, MIPI, MRTPI and Paula McCarthy, BSc, MSc (refer to above in table for further detail on experience).	16 + 18
GIS Co-ordination	SLR	Joe O'Reilly BSc (Hons), MSc led the GIS coordination for the EIA. Joe is an Associate GIS Analyst at SLR with over 7 years of experience in the development and implementation of spatial solutions for clients. Joe	7

INTRODUCTION 1

EIAR Topic	Company	Name and Qualification	Years Relevant Experience
		provides GIS expertise for multidisciplinary projects, supporting the variety of disciplines at SLR with expertise in data capture, management, analysis, and visualisation.	

Difficulties Encountered

- 1.70 Any difficulties encountered during the preparation of this EIAR have been identified in each of the topic specific chapters.

Scoping Consultation

- 1.71 This section describes the consultation process and EIAR scoping that was undertaken to identify key effects from the Proposed Development to be included in the EIAR. The consultation process carried out for the Proposed Development site was lengthy, detailed, and thorough. Several points and submissions were made by prescribed bodies and other 3rd parties as part of the consultation process which have informed the design of the Proposed Development and the approach to this EIAR.
- 1.72 This Section describes the consultation and scoping process undertaken by the Applicant during the pre-submission stage and does not refer to the statutory consultation process that will be carried out by An Bord Pleanála once the application is lodged nor any formal scoping opinion from An Bord Pleanála pursuant to section 37D of the Planning and Development Act 2000 (as amended).
- 1.73 Within this consultation process, importance has been taken from the Code of Practice for Wind Energy Development in Ireland – Guidelines for Community Engagement published on in 2016 by the Department of Communications, Climate Action, and the Environment. This states that:
- ‘This Code of Good Practice is intended to ensure that wind energy development in Ireland is undertaken in observance with the best industry practices, and with the full engagement of communities around the country’.*
- 1.74 The applicant complied with the provisions of this Code of Practice throughout the pre-planning process and followed good practice in engaging with communities as set out in this Guidance. Further detail on the approach to Community Engagement is set out in EIAR Volume III - **Appendix 1-4**.

Scoping Consultees

- 1.75 The purpose of the EIA scoping process is to identify the key points and issues which are likely to be important during the environmental impact assessment (EIA) of a project and to eliminate those that are not. The scoping process identifies sources or causes of potential environmental effects, the pathways by which the effects can happen, and the sensitive receptors which are likely to be affected. It defines the appropriate level of detail for the information to be provided in the EIAR so as to enable the competent authority to reach a reasoned conclusion on the significant effects on the environment of the Proposed Development, taking into account current knowledge and methods of assessment.
- 1.76 A consultation process was carried out with respect to this EIAR in order to inform the scope of the assessment of likely significant environmental effects. A scoping request letter and preliminary scoping report, included in EIAR Volume III - **Appendix 1-3**, providing a description of the Proposed Development, preliminary table of contents of the EIAR and an outline of the methodology for assessment was distributed to consultees on the 8th November 2022.

1.77 The recipients included Local Authorities, Government Departments, non-governmental organisations (NGOs), interested parties and key stakeholders. Consultees were invited to contribute to the Scope of the EIAR by suggesting baseline data, survey methodologies and potential impacts that should be considered as part of the impact assessment process and as part of preparing the EIAR.

1.78 **Table 1-4** details the list of consultees who were issued a copy of the scoping document.

Table 1-4: List of Consultees

Type of Stakeholder	Body Department
Westmeath County Council	Planning Department
	Roads Department
	Environment Department
	Heritage Officer
Meath County Council	Planning Department
	Roads Department
	Environment Department
	Heritage Officer
Government Departments	Department of Agriculture, Food, and the Marine
	Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs – Development Applications Unit (Nature Conservation)
	Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs – Development Applications Unit (National Monuments Service)
	Department of Communications, Climate Action, and Environment
	Department of Defence
	Department of Housing, Planning, Community and Local Government
	Department of Transport, Tourism and Sport
Prescribed Bodies, NGOs, and Stakeholders	An Chomhairle Ealaíon (Arts Council)
	An Taisce
	Arra Communications
	Bat Conservation Ireland
	Birdwatch Ireland
	Commission for Energy Regulation
	Development Applications Unit, National Parks, and Wildlife Service
	Eastern and Midland Regional Assembly
	Echo IT Limited
	EPA

INTRODUCTION 1

Type of Stakeholder	Body Department
	Fáilte Ireland
	Gas Networks Ireland
	Geological Survey of Ireland
	Health Service Executive
	Iarnród Éireann
	Inland Fisheries Ireland
	Irish Farmers Association
	Irish Peatland Conservation Council
	Irish Parachute Club
	Irish Raptor Group
	Irish Red Grouse Association
	Irish Sports Council
	Irish Water
	Irish Wildlife Trust
	National Trails Office (Now Sport Ireland Outdoors)
	Office of Public Works
	Sustainable Energy Authority of Ireland
	Teagasc
	TETRA Ireland Ltd.
	The Arts Council
The Heritage Council	
Transport Infrastructure Ireland	
Údarás na Gaeltachta	
Waterways Ireland	
Telecommunication / Aviation	Arra Communications
	Broadcasting Authority of Ireland
	BT Communications Ireland Ltd
	Commission for Communications Regulation
	Digiweb Dublin Offices and Data Centre
	Dublin Airport Authority
	Eir

Type of Stakeholder	Body Department
	ESB Telecoms
	Irish Aviation Authority
	Irish Broadband/Imagine
	Premier Broadband
	Ripplecom
	RTE / 2RN
	Telecommunications Section, An Garda Siochána
	Three
	TowerCom Ltd.
	TV3
	Vodafone
	Wireless Connect Ltd.

EIA Scoping Conclusion

- 1.79 Consultation was carried out with several stakeholders, including Westmeath County Council, Meath County council, An Bord Pleanála. Government departments, Non-Governmental Organisations, telecommunications providers, aviation organisations, local councillors, community groups and local residents. Their comments and feedback were addressed by subsequent project design iterations and subsequently into the EIAR.
- 1.80 Pre-planning consultation meetings were held with both Westmeath County Council and An Bord Pleanála to determine the key points and potential impacts of the Proposed Development and to inform the assessment methodology in this EIAR.

Table 1-5: Summary of Scoping Responses and Actions

Stakeholder	Summary Response	Action
Transport Infrastructure Ireland (TII)	<p>TII noted that the site adjoins the N52 national road and highlighted policy concerning access to national roads.</p> <p>TII requested that the Applicant carry out consultations with Local Authority/National Roads Design Office regarding the N52 Cavestown to Kilrush Scheme.</p> <p>Meetings with the Roads Design Office subsequently took place. During these meetings it was requested that:</p> <p>Grid connection and cable routing to be developed to safeguard the N52 realignment road scheme.</p> <p>Methods/techniques for any works traversing/in proximity to the national road network were agreed in principle. The Applicant was also asked to consider whether a Road Safety Audit is required for any of the temporary works proposed.</p>	<p>2no. meetings held with Local Authority/National Roads Design Office</p> <p>Design amendments were carried out to facilitate further setback of turbines.</p> <p>There was also agreement in principle on depth/design of cabling at tie ins were made.</p>

Stakeholder	Summary Response	Action
<p>Meath County Council</p>	<p>The response from Meath County Council requested that MCDP policies were considered during preparation of the Planning Application.</p> <p>These policies include:</p> <p>Ch 6 Infrastructure Strategy (INF POL 41), Ch 8 Cultural and Natural Heritage Strategy, Ch 10 Climate Change Strategy and Ch 11 Development Management Standards (11.8.1 and 11.8.3 and 11.8.4), CDP Appendices (A.05, A.06, A.09, A.10) and Volume 3 Book of Maps which are associated with the Appendices (including Map 8.6 Views and Prospects, etc.) and other relevant parts of the MCDP</p> <p>MCC also requested completion of Ecological Impact Assessment, Invasive Species Management Plan and Habitat and Species Management Plan as part of EIA</p> <p>At the location of the Proposed Substation, Meath noted the elevated position of the site in the landscape and ringfort – rath adjoining this site. The submission noted viewpoints from localised high points such as Peoples Park (Kells). They requested consideration of character areas in the region of the Site and potential capacity for the South-West Kells Lowlands. They also requested that the EIAR consider the impact on tourism assets in the region, including those identified in Failte Ireland's Hidden Heartlands and Ancient East strategies.</p> <p>Consideration of the potential impact on fen peat / Annex 1 habitat should also be considered in the NIS.</p> <p>As part of the site is located within a flood risk area. A stage 3 FRA is required and should include OPW CFRAMS and CDP data. MCC also requested the following to be included in the CEMP:</p> <p>Surface Water Quality Management Plan, Water Protection and Monitoring Protocol, Site Drainage Management and Emergency Silt Control and Spillage Response Procedures and Dust Control Suppression Strategy.</p> <p>The submission also sought the following as part of the EIAR:</p> <p>use of a Windfarm Carbon Assessment Tool, the completion of an Archaeological Assessment consideration given to noise (max) limits in draft Wind Energy Guidelines 2019 Traffic / Transportation Management Plan</p>	<p>Design amendments including micro siting to avoid sensitive habitat were carried out. This resulted in avoiding areas of Annex 1 and Marsh Fritillary habitat near T1</p> <p>Stage 3 FRA (Appendix 7-3) carried out and Detailed Drainage Survey (Appendix 7-4 T1 Drainage Assessment) to consider appropriate mitigation and inform CEMP.</p> <p>A geophysical survey was completed in order to ascertain archaeological potential within the Proposed Substation Site (Chapter 12).</p> <p>Landscape mitigation was developed for the Proposed Substation Site. As part of the EIAR, viewpoints have also been provided from this location.</p>
<p>Inland Fisheries Ireland</p>	<p>IFI noted the potential of the Proposed Development to impact on fisheries waters on the Rivers Stonyford, Athboy and Boyne including areas designated as SAC's, angling waters, adult holding areas, nursery and spawning waters, etc. forming parts of the Eastern River Basin District</p> <p>The IFI requested particular regard to the following:</p>	<p>In response to the submission, it should be noted that the Proposed Development will not require river crossings.</p>

INTRODUCTION 1

Stakeholder	Summary Response	Action
	<p>All natural watercourses which have to be traversed during site development and road construction works should be effectively bridged prior to commencement.</p> <p>To minimise adverse impacts on the fisheries resource works in rivers, streams and watercourses should normally (except in exceptional circumstances and with the agreement of IFI) be carried out during the period July-September.</p> <p>The IFI also requested:</p> <p>The assessment and review of the soil type and structure at the proposed turbine locations, and along the route of any proposed access track(s)/road(s) including areas where temporary or permanent stock piling of excavated material takes place. This is particularly important if the areas concerned contain peat soils.</p> <p>Systems to be put in place to ensure that there shall be no discharge of suspended solids or any other deleterious matter to watercourses during the construction / operational phase and during any landscaping works. A number of requirements for construction and operation were listed in relation to this concern.</p> <p>The use of pre-cast concrete wherever possible during construction to avoid alteration of pH of water. Biosecurity measures during construction phase to avoid spread of invasive species in-stream works without written approval of IFI. All works should also be carried out as per Guidelines</p>	<p>The following assessments were also carried out:</p> <p>Stage 3 FRA</p> <p>Detailed Drainage Survey for T1</p> <p>Appropriate mitigation has been developed to inform the CEMP</p>
NPWS	<p>The NPWS requested:</p> <ul style="list-style-type: none"> • Bird surveys to include the use of avian radar systems to detect nocturnal migrating birds. • The use of avian acoustic sound meters to record and interpret sonograms in the context of the flightlines of migrating geese. • Bat surveys account for species such as Leisler bat which mostly fly at a high altitude therefore passive surveying at height should be undertaken. <p>It was also requested that the EIAR assess impacts on amber and red-listed species; areas of High Nature Value (HNV) land; compliance with Article 10 of the EU Habitats Directive in terms of protection of stepping stones and wildlife corridors in the landscape.</p>	<p>The NPWS was consulted annually on bird surveys methodology and no comments relating to the use of use of avian radar systems were raised during these consultations.</p> <p>Meaningful nocturnal surveys for birds not feasible and NatureScot, 2022 guidance does not mention acoustic detectors. Please also see Chapter 5 for the detailed response to points raised.</p> <p>Guidance also recommends that radar is only used to assess sites where there is likely to be high nocturnal activity of important species, especially if an SPA qualifying species is potentially affected. There is no evidence to suggest the</p>

Stakeholder	Summary Response	Action
		<p>site has a high level of nocturnal bird activity.</p> <p>Bat detector was deployed at height from May – Sept 2023.</p> <p>A meeting was sought with NPWS to discuss the approach in the EIAR, but representatives were not available to meet with the project team due to resource availability.</p>

Consultation with Key Stakeholders

Pre application Consultation with Westmeath County Council

- 1.81 A pre-application consultation meeting was held with the Applicant and Westmeath County Council (WCC) on 21st September 2022.
- 1.82 Key points raised at this meeting included land ownership and access. Policy considerations were also discussed, with the development noted to align with relevant policies. However, it was also noted that the Proposed Development should also consider its environmental impact, especially its proximity to peatlands.
- 1.83 Environmental concerns were also raised around the potential for shadow flicker due to the proximity of housing. The Stoneyford river was identified as being at risk during the construction phase, and the impact on the setting of Rosmead House was noted to require further assessment.
- 1.84 Representatives from the Roads Development requested further information on the Proposed Cable Corridor and the proposed site access arrangements, stating that more details were needed, especially concerning the impact along the N52. It was agreed that the proposed design of access arrangements would be issued to the Roads Authority for comment prior to submitting the application. Details of access arrangements were provided by the Applicant to the Roads Department on the 21st September 2023.

Pre application Consultation with Meath County Council

- 1.85 Pre application Consultation with Meath County Council was dealt with by way of a written response from MCC to the Preliminary Scoping Report. As part of this response, MCC outlined several potential issues concerning the Proposed Development. MCC emphasised the need for a consistent red line site boundary across all submitted documents and advised that the EIA should consider the likely significant effects of the development in its entirety. The Council also pointed to the importance of adhering to the Meath County Development Plan 2021-2027, particularly its policies on wind energy, grid connections, climate change, and cultural and natural heritage.
- 1.86 The Council requested that the landscape and visual assessment be conducted in the context of its Landscape Character Assessment (LCA), considering the impact on character areas, sensitivity, and viewpoints. It also noted that the proposed development would be

particularly visible from specific viewpoints listed in the MCDP. Additionally, the Council highlighted the need to consider the impact on architectural heritage and national monuments in proximity to the Proposed Development Site. Overall, the Council stressed the importance of comprehensive planning and environmental assessments to ensure the Proposed Development is aligned with local and national guidelines.

Pre-application consultation meetings with An Bord Pleanála

- 1.87 In the pre-application consultation meeting with An Bord Pleanála on the 22nd of October 2022, several items were raised concerning the Proposed Development. The Board emphasised the need for clarity on policy objective CPO 10.143 and Ministerial Direction.
- 1.88 Questions were raised about the environmental impact, particularly concerning large-scale commercial peat extraction, tree felling, and effects on native woodlands. The Board also inquired about logistical challenges with respect to the TDR, such as access points and narrow bridge crossings, and the prospective applicant's engagement with local councils and Transport Infrastructure Ireland (TII).
- 1.89 The Board advised the Applicant to consider visual and hydrological impacts, especially given the site's proximity to Meath County Council's administrative area. Points were also raised on potential impact on nearby national monuments and archaeological sites.
- 1.90 The Board requested further consideration of environmental risks, including impacts on aquatic environments and local flora and fauna, in compliance with the Water Framework Directive. The Board also recommended that the EIAR outlines the carbon resources required for construction and the anticipated carbon savings.
- 1.91 Finally, the Board indicated that the project's Strategic Infrastructure Development (SID) status would be determined at the end of the pre-application process and advised keeping the current pre-application case open for ongoing consultations and updates.

Second Pre-application Consultation Meeting with An Bord Pleanála

- 1.92 A second pre-application consultation meeting with An Bord Pleanála was held on 6th March 2023.
- 1.93 During this meeting the Board's representatives raised several points relevant to the Proposed Development. The Board sought clarity on the approach to design flexibility of the proposed turbines and advised that the development would likely constitute strategic infrastructure. The Board also queried whether scoping responses had been provided by Westmeath County Council's Road Design Office.
- 1.94 The Board advised the applicant to provide rationale for the approach to the biodiversity Chapter of the EIAR in the context of the submission made by the NPWS regarding nocturnal bird surveys. Additionally, the Board inquired about the response from the TII on the new proposed access point on the N52. Finally, the Board indicated that the applicant should proceed with the assumption that potential design options will be assessed in the EIAR, as there is no clear commencement date for relevant provisions in the Planning and Development Maritime Valuation (Amendment) Act, 2022.

SID Pre-Application Closure and List of Prescribed bodies

- 1.95 The SID pre-application consultation was closed on 24th August 2023. A list of prescribed bodies was provided by An Bord Pleanála. The prescribed bodies which have been provided are as follows:

- Minister for Housing, Local Government and Heritage,
- Minister for Agriculture, Food, and the Marine,
- Minister for the Environment, Climate and Communications,
- Westmeath County Council,
- Meath County Council,
- Midlands and East Regional Assembly,
- Transport Infrastructure Ireland,
- An Taisce,
- An Chomhairle Ealaíon,
- Fáilte Ireland,
- The Heritage Council,
- National Parks and Wildlife Service (development Applications Unit),
- Inland Fisheries Ireland,
- Irish Water,
- Irish Aviation Authority,
- Health Service Executive,
- Commission for Regulation of Utilities,
- Office of Public Works,

1.96 As part of the informal scoping process, all prescribed bodies listed above were previously contacted and provided copies of the scoping report and kept abreast of any further changes. Scoping responses, where received have been summarised in **Table 1-5** above.

1.97 The list of prescribed bodies provided by An Bord Pleanála was contacted further and informed of an impending planning application.

Community Consultation

1.98 Extensive community consultation has been undertaken since as far back as 2013 and a Community Liaison Officer was appointed when the Proposed Development was initially proposed as part of a much larger wind development project.

1.99 Public consultation specific to the Proposed Development commenced in March 2023 at an early stage in its development process. A Community Liaison Strategy (CLS) was established and set into motion with a newly nominated CLO being appointed for this specific project. The CLS is based on the 'Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement'.

1.100 In accordance with the Code of Practice for Wind Energy Development in Ireland, the developers of the Proposed Development appointed a Community Liaison Office (CLO) to engage with the public throughout the development of the Project as a whole. The CLO was responsible for communication between the public and the developer's team. The CLO's role included door to door consultation with community members within 1.6km of the Proposed Development, distribution of project materials to community members, follow up meetings with community members where required, liaison between local residents and the project team and communication of any project updates.

1.101 Project information was distributed by leaflet drops to houses within a 1.6km radius of the Proposed Development. Follow-up visits to households of members of the public were also undertaken where requested to discuss the details of the project. Further details, including dates are included in the sections following.

1.102 Public consultation was facilitated by having a dedicated Community Liaison Officer on the ground by way of door-to-door house calls and leaflet and letter drop to ensure locals were

made aware of the details of the Proposed Development and processes involved. Dedicated contact details were provided with circulated materials so members of the public could directly contact the project team. This process was commenced as early as possible in order to inform the design of the Proposed Development and to inform the EIA process. A dedicated website was also set up to allow for further open communication between the applicant and community throughout the iterative design process and run-up to the application submission.

- 1.103 Two facilities have been provided for the local community to allow both privacy and a forum to voice their views on the Proposed Development through the provision of the VCR and the use of the Proposed Development consultation feedback form.
- 1.104 Observations and issues that arose during the scoping and consultation process have informed the design, assessment and mitigation measures proposed as part of this Proposed Development. Of significance here is movement of turbines and associated infrastructure during the design evolution and the commitment to zero shadow flicker at dwellings in proximity to the Proposed Development in compliance with the 2019 draft Wind Energy Guidelines.

Project Website

- 1.105 A dedicated Project website was set up which presented updates on the Proposed Development and the Project as a whole. The website hosted a platform for the review of Proposed Development information as well as an interactive GIS based community consultation tool and virtual consultation room, allowing for members of the public to voice their comments and concerns for the Proposed Development. The Project website also included contact details of the CLO. The website address is as follows:

<https://knockanarraghwindfarm.ie/>

Door to Door Community Engagement

- 1.106 The core objective of this consultation approach was to provide information on what was being considered and to receive feedback from people in the local community which would be used to inform the design process.
- 1.107 Residents in all houses within 1.6km of the Proposed Development layout, totalling 155 houses, were provided with information at least twice, with engagement extending to residents in 11 properties beyond 1.6km. 54 houses within 1km of the Proposed Development engaged during the door-to-door engagement process. Where it was not possible to engage directly with residents as they were not home, 'Sorry we missed you' cards with contact details and QR codes to the community consultation portal and Knockanarragh website were left at the property. Over 35 people requested meetings after we left these cards at properties.
- 1.108 An important aspect of the community engagement strategy was the distribution of project information and the gathering of feedback. In total, 351 project booklets were distributed across the local and wider area.
- 1.109 The following information was provided to all homes within the consultation area:
- Contact details for contacting the CLO at any time.
 - 2 project booklets
 - Details on the project website
 - Details of the virtual consultation room

- Update newsletter prior to planning submission

1.110 An up-to-date newsletter is being coordinated to be distributed advising of the planning submission with the timing to coincide with the lodgement of the planning application.

Virtual Consultation Room

1.111 A virtual consultation room (VCR) was set up for members of the public to obtain key information about the Proposed Development while sharing their views. The VCR was launched in August of 2023 following distribution of the first project booklet and door-to-door community engagement. The VCR demonstrated the evolution of the Proposed Development following community feedback from the initial round of consultation in tandem with environmental assessment which guided the design process.

Project Consultation Feedback Form

1.112 A specialised online Geographic Information Systems (GIS) form was created to capture feedback and views from the community. This form was provided in several ways – firstly, as a QR code on ‘Sorry we missed you’ postcards left with residents who the CLO was unable to engage with in person during initial door-to-door consultations, secondly, within the project booklets distributed as part of the door-to-door consultations, and thirdly, via a dedicated link in the project website. This form provided key information to households, such as an exact distance to the nearest turbine from their home as well as providing a platform for households to provide their feedback and concerns on the Proposed Development and on specific environmental, landscape and other concerns, including how community development funds might be utilised.

Summary of Key Issues

Key Issues Raised during Community Consultation

1.113 The scoping process proved beneficial to the identification of potential issues in relation to the Proposed Development. Responses from the consultees identified a range of observations which have been taken into consideration in the preparation of the respective chapters of this EIAR. Issues raised during the consultation process are as follows:

- Community Benefit Fund and how it could deliver to the local area.
- Feedback on potential shadow flicker, setback distances, proximity to houses and noise.
- Feedback on visuals; and
- Feedback on hydrology in relation to potential run-off that could increase the water table.

Feedback on Design

1.114 The preliminary design was reviewed to reflect consultation responses commonly received from the local public. Feedback gathered during this consultation process in relation to the design of the proposal was relayed to the design team who worked to take on board the local community’s views and concerns. A design review process was undertaken in which this feedback, along with technical appraisals, were considered. The process gave the design team the opportunity to make amendments to the design layout and the project being considered, based on the local feedback received.

- 1.115 The proposed design resulted from this consultation process. The design proposal being brought forward for consultation included a commitment to eliminate shadow flicker and with a setback distance of 4x times the tip height of the proposed turbines (720m) or more to the nearest home in the community.
- 1.116 A summary of consultation responses with key stakeholders, including where each response is addressed within the EIAR is found in **Appendix 1-4**.

Viewing and Purchasing of the EIAR

- 1.117 This EIAR is available for download at www.knockanarraghwindfarmSID.ie
- 1.118 Copies of this EIAR including the Non-Technical Summary and the Appendices and all planning documents may be inspected free of charge or purchased by any member of the public during normal office hours at the following locations:
- The offices of An Bord Pleanála, 64 Marlborough Street, Dublin 1,
 - Westmeath County Council Planning Department, Áras An Chontae, Mount Street, Mullingar, Co. Westmeath N91 FH4N, and Meath County Council, Planning Department, Buvinda House, Dublin Road, Navan, Co. Meath, C15 Y291.

Figures

Figure 1-1: Site Location

Figure 1-2-a, b & c: Site Layout Plan

Figure 1-3: Turbine Delivery Route

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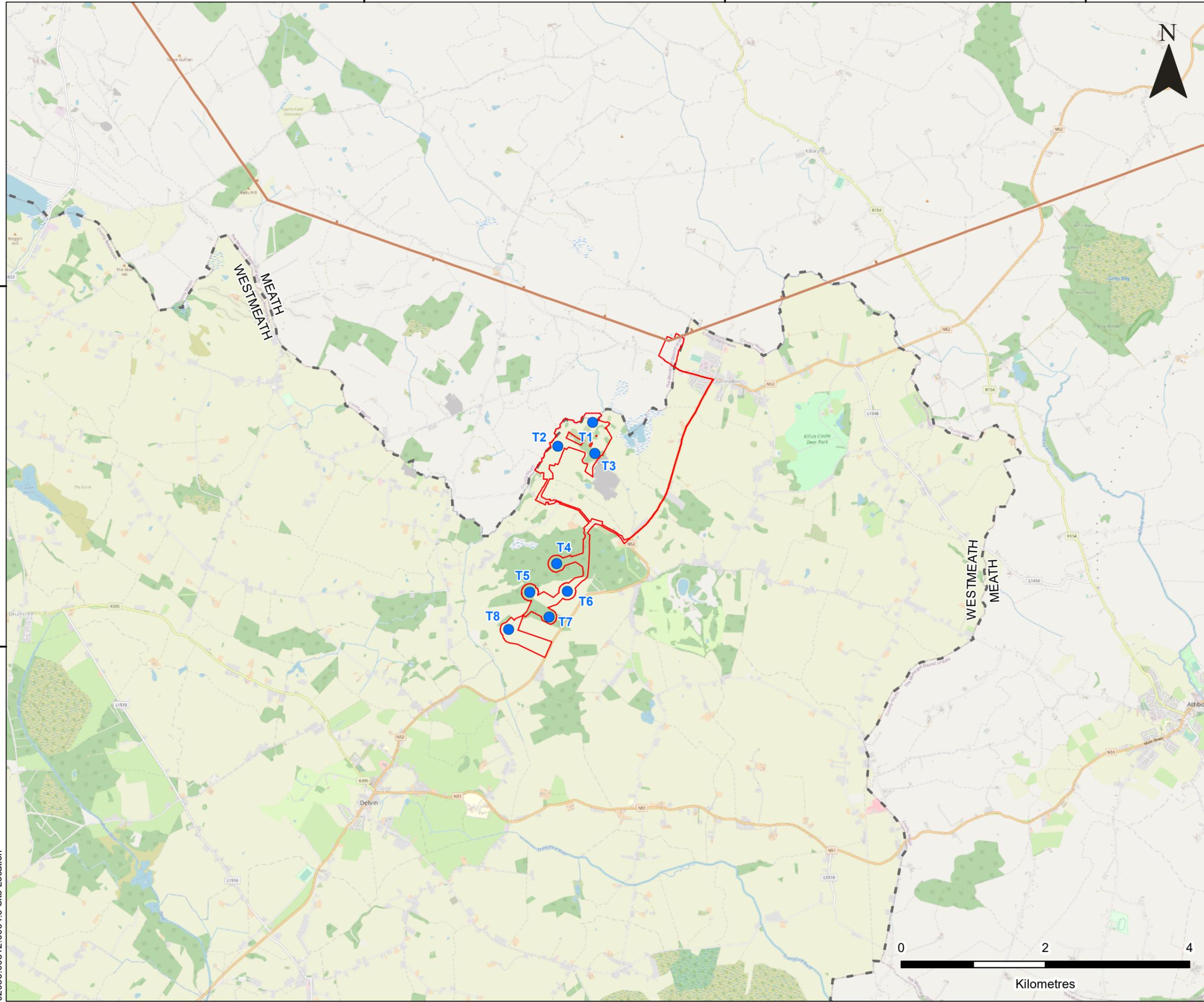
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LEGEND

- Proposed Development Site Boundary
- Proposed Turbine Location
- Existing High Voltage Transmission Line
- County Boundary



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**KNOCKANARRAGH WIND FARM
 ENVIRONMENTAL IMPACT
 ASSESSMENT REPORT**

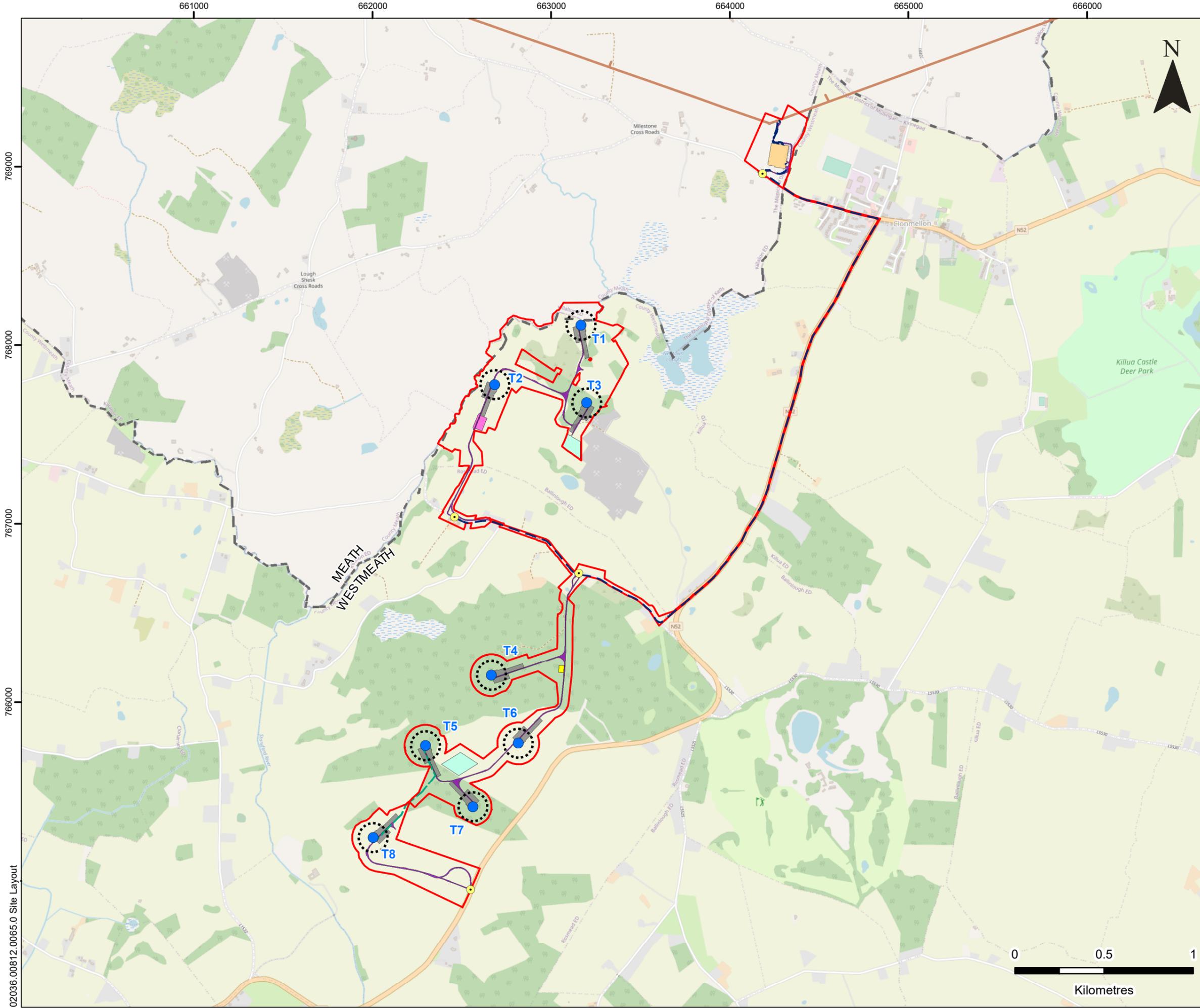
INTRODUCTION

SITE LOCATION

FIGURE 1-1

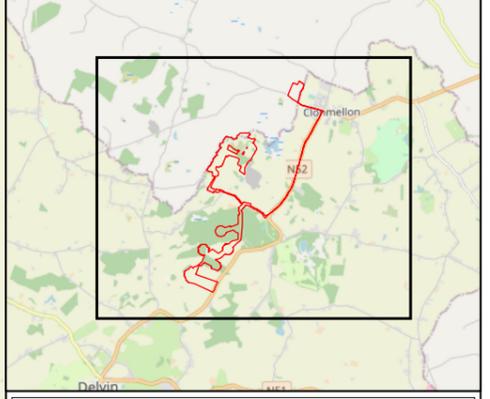
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LEGEND

- Proposed Development Site Boundary
- Proposed Turbine Location
- Proposed Turbine Location 81 m Buffer
- Proposed Site Access
- Proposed Internal Collector Cable
- Proposed Cable Route
- Proposed Access Track
- Proposed Temporary Construction Compound
- Proposed Operational Compound
- Proposed Substation Location
- Proposed Borrow Pit
- Proposed Crane Hardstanding
- Existing High Voltage Transmission Line
- County Boundary

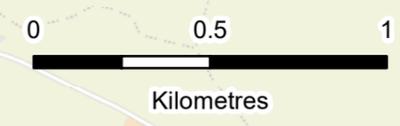


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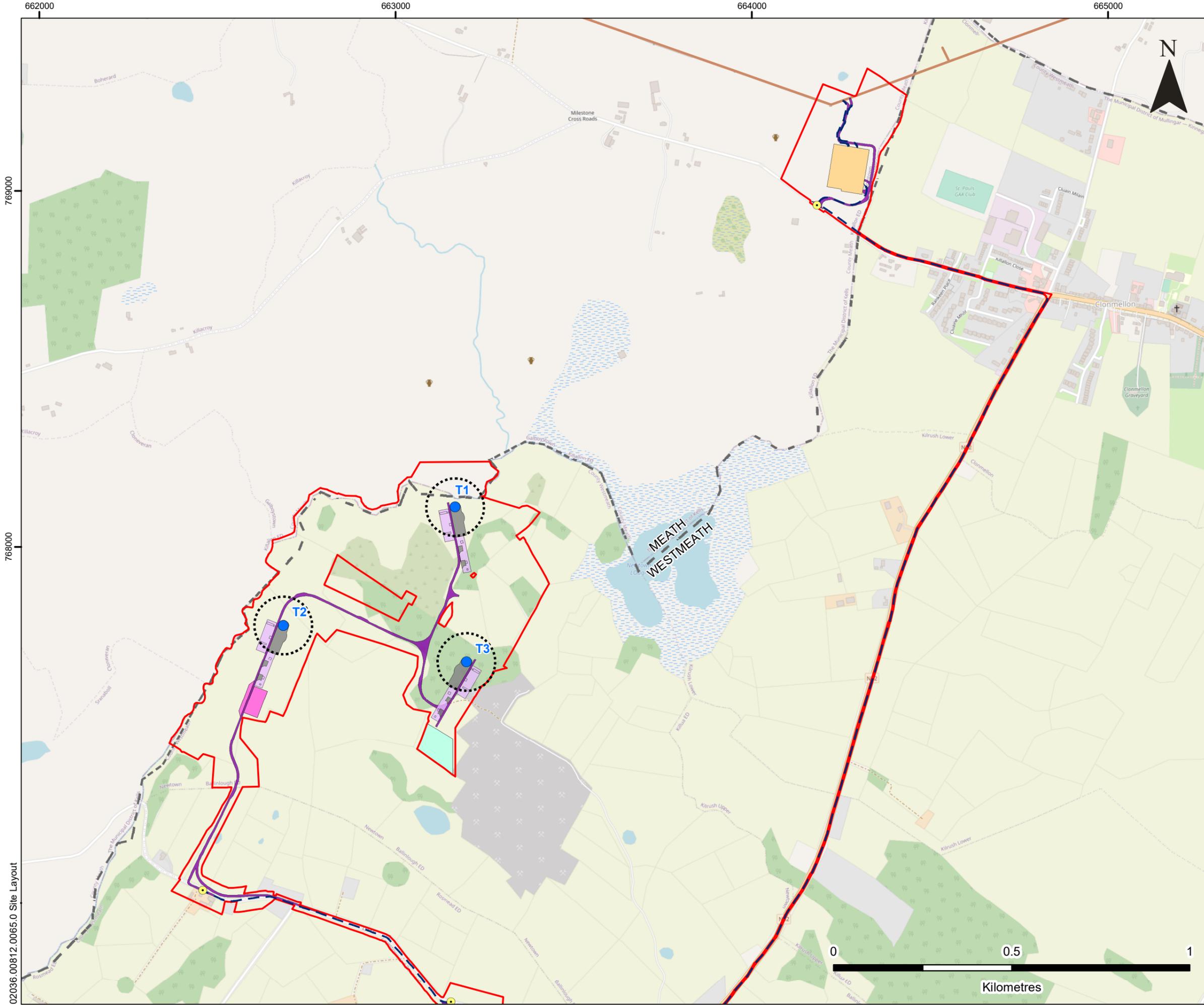
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KNOCKANARRAGH WIND FARM
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 ASSESSMENT REPORT
 INTRODUCTION
 SITE LAYOUT PLAN -
 OVERVIEW
FIGURE 1-2-a

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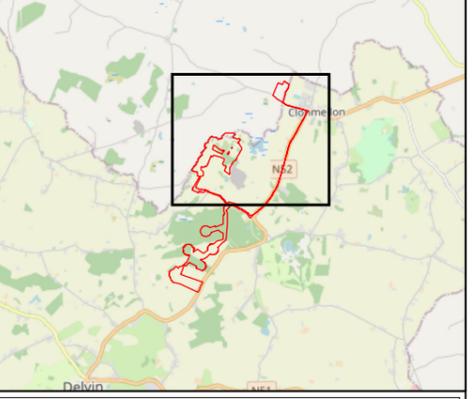


02036.00812.0065.0 Site Layout



LEGEND

- Proposed Development Site Boundary
- Proposed Turbine Location
- Proposed Turbine Location 81 m Buffer
- Proposed Site Access
- Proposed Cable Route
- Proposed Access Track
- Proposed Temporary Construction Compound
- Proposed Substation Location
- Proposed Borrow Pit
- Proposed Crane Hardstanding**
- Permanent
- Temporary
- Existing High Voltage Transmission Line
- County Boundary



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**KNOCKANARRAGH WIND FARM
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 ASSESSMENT REPORT**

INTRODUCTION

**SITE LAYOUT PLAN -
 NORTHERN CLUSTER**

FIGURE 1-2-b

Scale 1:10,000 @ A3 Date OCTOBER 2023

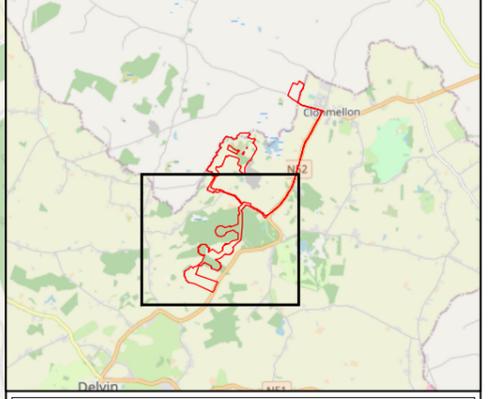


02036.00812.0065.0 Site Layout



LEGEND

- Proposed Development Site Boundary
- Proposed Turbine Location
- Proposed Turbine Location 81 m Buffer
- Proposed Site Access
- Proposed Internal Collector Cable
- Proposed Cable Route
- Proposed Access Track
- Proposed Operational Compound
- Proposed Borrow Pit
- Proposed Crane Hardstanding**
- Permanent
- Temporary
- County Boundary



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INTRODUCTION

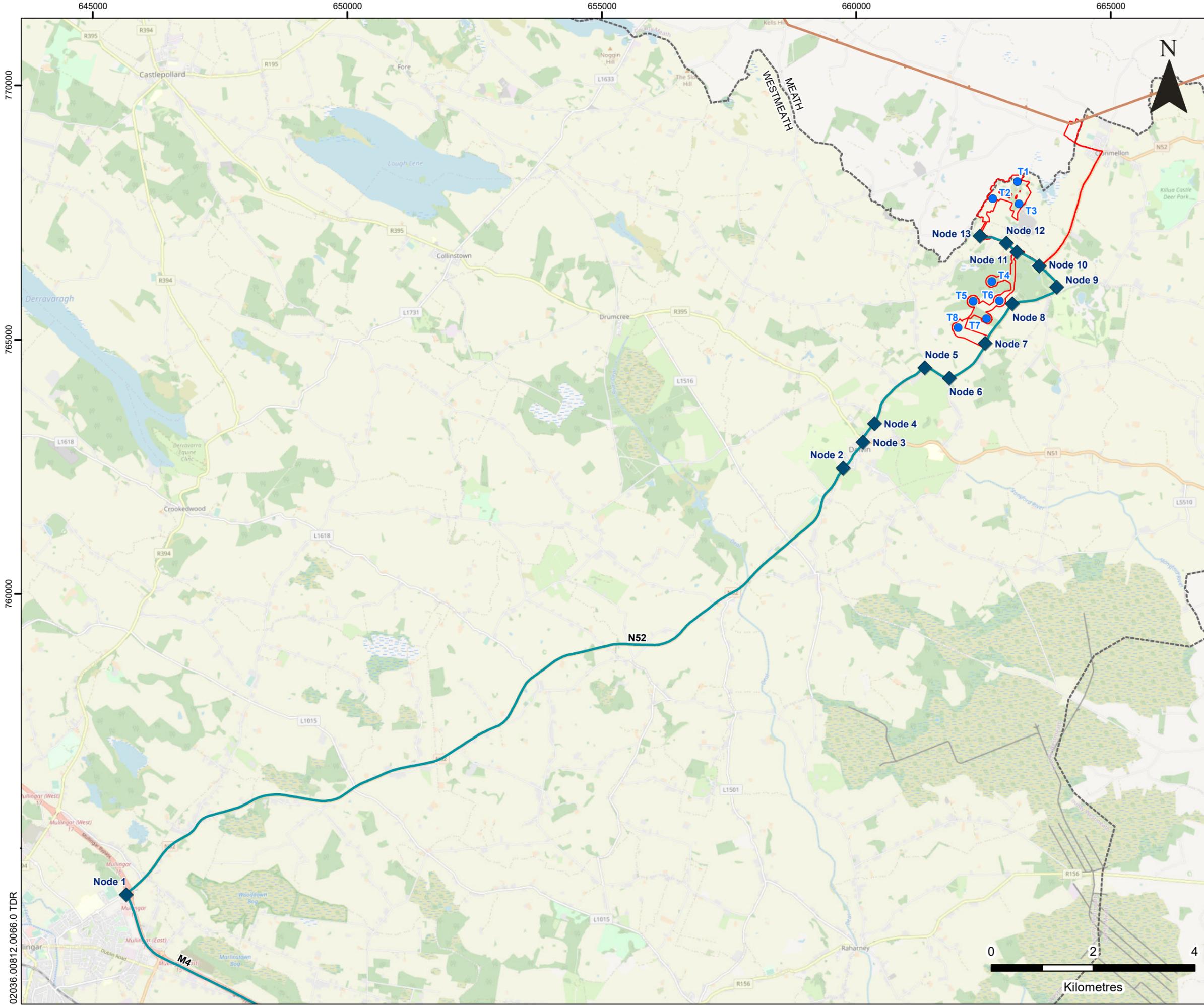
SITE LAYOUT PLAN - SOUTHERN CLUSTER

FIGURE 1-2-c

Scale 1:10,000 @ A3 Date OCTOBER 2023

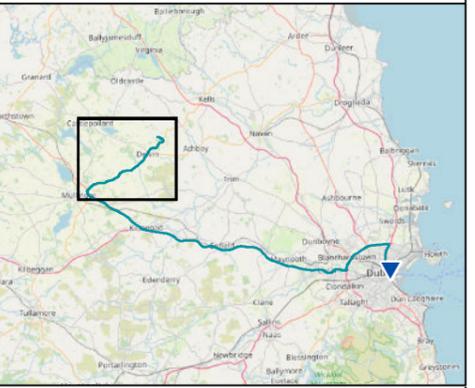


02036.00812.0065.0 Site Layout



LEGEND

- Proposed Development Site Boundary
- ▼ Dublin Port
- Proposed Turbine Location
- ◆ Proposed Turbine Delivery Route Node
- Proposed Turbine Delivery Route
- Existing High Voltage Transmission Line
- County Boundary



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 INTRODUCTION
TURBINE DELIVERY ROUTE
FIGURE 1-3

Scale 1:70,000 @ A3	Date OCTOBER 2023
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Appendices

Appendix 1-1: Developments Considered in the Cumulative Assessment

Appendix 1-2: Scoping Consultees

Appendix 1-3: Scoping Report

Appendix 1-4: Community Engagement

(Refer to EIAR Volume III for Appendices)