



An
Bord
Pleanála

Inspector's Report ABP-313261-22

Development

Provision of up to 3 wind turbines with associated foundations. The application was accompanied by a Natura Impact Statement and Environmental Impact Assessment Report.

Location

The townlands of Derryleigh, Gortnahoughtee, Cloghar, Gurteen, Gortatanvally, Lackabaun and Carrigdangan, Co. Cork

Planning Authority

Cork County Council

Planning Authority Reg. Ref.

215372

Applicant(s)

Keel Energy Limited

Type of Application

Permission

Planning Authority Decision

Grant

Type of Appeal

Third Party

Appellant(s)

Karin Kempf & Others

Katie McShane

Tom Jordan

Elizabeth Fleming, Bernadette
McCarthy and Tony Miller
Kathleen & Tim Baker

Observer(s)

None.

Date of Site Inspection

24th August 2022.

Inspector

Sarah Lynch

Contents

1.0 Site Location and Description	4
2.0 Proposed Development	4
3.0 Planning Authority Decision	4
3.1. Decision	4
3.2. Planning Authority Reports	4
3.3. Prescribed Bodies	5
3.4. Third Party Observations	5
4.0 Planning History.....	6
5.0 Policy Context.....	6
5.1. Development Plan.....	6
5.2. Natural Heritage Designations	13
6.0 The Appeal	13
6.1. Grounds of Appeal	13
6.3. Planning Authority Response	19
6.4. Observations	19
6.5. Further Responses.....	19
7.0 Assessment.....	20
8.0 Environmental Impact Assessment.....	26
9.0 Appropriate Assessment.....	53
10.0 Conclusion	68
11.0 Recommendation	68
12.0 Reasons and Considerations	69
13.0 Conditions	73

1.0 Site Location and Description

- 1.1. The Proposed Development is located approximately 3km south of the village of Inchigeelagh and approximately 8.5km north of the town of Dunmanway, Co. Cork. The site covers an area of approximately 152 hectares in total. The Proposed Development is located directly north of the existing 5 turbine development and substation. The lands are located in an elevated position within the landscape and the predominant land use within the area is agricultural. The site is accessed via a single-track road and is visible from the surrounding landscape.
- 1.2. Development in the area comprises dispersed rural housing and agricultural buildings.

2.0 Proposed Development

- 2.1. It is proposed to construct 3 no. turbines with an overall tip height of 176.5 metres. Each turbine will be connected to the on-site substation via underground cables and a borrow pit is proposed within the site also.
- 2.2. A temporary site compound is proposed to facilitate works. A total of 6.89 hectares of forestry is proposed to be permanently felled with 1.08 hectares to be temporarily felled and potential for 25 hectares to be felled pending turbulence conditions at the site.

3.0 Planning Authority Decision

3.1. Decision

Cork County Council determined to grant permission subject to standard conditions.

3.2. Planning Authority Reports

3.2.1. Planning Reports

The planner's report is consistent with the decision of the Council. Further information was requested in relation to the following items:

- The presence of white-tailed eagle and any likely impacts.

- Survey in relation to the Kerry Slug and an appropriate relocation licence if required.
- Updated bat survey and potential impacts report.
- Outline habitat reinstatement and enhancement plan detailing biodiversity and restoration plans.

3.2.2. Other Technical Reports

- Area Engineer – recommended grant subject to standard conditions
- County Ecologist – recommended further information
- County Archaeologist – site is within an area of archaeological potential and there is a recorded archaeological monument CO093-020 Standing Stone it is recommended to grant permission subject to standard conditions.
- Environment Section - recommended a grant of permission subject to standard conditions.

3.3. Prescribed Bodies

- Department of defence – request specific lighting for the site.
- Irish Aviation Authority – Standard conditions relating to construction and operation.
- Geological Survey Ireland – suggests their online data sets.

3.4. Third Party Observations

A total of 24 valid submissions were received in relation to the proposed development, the issues raised can be summarised as follows:

- Query overall contribution to greenhouse gas reduction.
- Where will power generated be used.
- Disproportionate number of wind projects in cork.

- Concerns relating to height, noise, shadow flicker, devaluation of properties, road safety, light pollution, landslides, ecological impacts, impact to residential properties, cumulative impacts, lack of site notices, lack of consultation.
- Siting is not screened.
- EIAR is inadequate.
- Concerns relating to community fund.
- Lack of wind energy guidelines.
- Non compliance issues.

4.0 Planning History

- ABP 246353 - 10 year permission granted for 5 wind turbines, upgrading of existing and provision of new internal access roads, wind anemometry mast, electricity substation, connection to national grid.
- ABP 301563-18 – permission was granted for 10 year permission for proposed development consisting of: (1) A 110kV electricity substation including 2 no. control buildings associated electrical plant and equipment, underground electricity cabling, fencing, alterations to a previously permitted borrow pit and temporary construction compound at the Carrigarierk Wind Farm (An Bord Pleanala Ref. PL04.246353 as outlined above).

5.0 Policy Context

5.1. Development Plan

Cork County Development Plan 2022-2028

The current development plan was adopted on the 25th April 2022, it is of note that the Minister made a direction to the plan on the 6th June 2022. The Minister’s direction does not relate to the parts of the plan which relate to wind energy. The current County Development Plan supports the development of wind energy within the County of Cork and the relevant policies and objectives relating to same are outlined hereunder.

It is of note that the application was determined by the Council in the context of the previous Cork County Development Plan (2014) and it is important to note that the policy position relating to the proposed development remains unchanged within the current development plan. The site remains within an area where wind development is 'open for consideration' as identified within the current Cork County Development Plan 2022.

- **Section 13.6.3 Wind Energy Strategy**
- **County Development Plan Objective ET 13-5: Wind Energy Projects**
 - a) Support a plan led approach to wind energy development in County Cork through the identification of areas for wind energy development. The aim in identifying these areas is to ensure that there are minimal environmental constraints, which could be foreseen to arise in advance of the planning process.
 - b) On-shore wind energy projects should focus on areas considered 'Acceptable in Principle' and 'Areas Open to Consideration' and generally avoid "Normally Discouraged" areas as well as sites and locations of ecological sensitivity.
- **ET 13-7: Open to Consideration Commercial wind energy development is open to consideration in these areas where proposals can avoid adverse impacts on:**
 - Residential amenity particularly in respect of noise, shadow flicker and visual impact;
 - Urban areas and Metropolitan/Town Green Belts;
 - Natura 2000 Sites (SPA's and SAC's), Natural Heritage Areas (NHA's), proposed Natural Heritage Areas and other sites and locations of significant ecological value.
 - Architectural and archaeological heritage;
 - Visual quality of the landscape and the degree to which impacts are highly visible over wider areas. In planning such development,

consideration should also be given to the cumulative impacts of such proposals.

- **ET 13-9:** National Wind Energy Guidelines Development of on-shore wind should be designed and developed in line with the 'Planning Guidelines for Wind Farm Development 2006' and 'Draft Wind Energy Development Guidelines 2019' and any relevant update of these guidelines.
- **ET 13-11: Public Consultation and Community Support**
 - (a) Require wind energy developers to carry out active public consultation with the local community in advance of and in addition to the statutory public consultation required as part of the planning application process.
 - (b) Applications for large scale wind energy development require a 'Community Report' with the planning application documents detailing the full extent of community and wider public engagement.

Southern Regional Assembly RSES 2020

- RPO 99 - Renewable Wind Energy - It is an objective to support the sustainable development of renewable wind energy (on shore and off shore) at appropriate locations and related grid infrastructure in the Region in compliance with national Wind Energy Guidelines.
- RPO 100 - Indigenous Renewable Energy Production and Grid Injection - It is an objective to support the integration of indigenous renewable energy production and grid injection.

Project Ireland - National Planning Framework 2040

The National Policy Position establishes the fundamental national objective of achieving transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050, this will be achieved by harnessing both the considerable on-shore and off-shore potential from energy sources such as wind, wave and solar.

- NSO 8 Transition to a low carbon economy

It is an objective of the plan to deliver 40% of our electricity needs from renewable sources by 2020 with a strategic aim to increase renewable deployment in line with EU targets and national policy objectives out to 2030 and beyond.

Ireland's Transition to a Low Carbon Energy Future 2015-2030

This document is a complete energy policy update, which sets out a framework to guide policy up to 2030. Its objective is to guide a transition, which sets out a vision for transforming Ireland's fossil fuel-based energy sector into a clean, low carbon system. It states that under Directive 2009/28/EC the government is legally obliged to ensure that by 2020, at least 16% of all energy consumed in the state is from renewable sources, with a sub-target of 40% in the electricity generation sector. It notes that onshore wind will continue to make a significant contribution but that the next phase of Ireland's energy transition will see the deployment of additional technologies as solar, offshore wind and ocean technologies mature and become more cost-effective.

Climate Action Plan 2021

- Section 4 - Choosing the Pathways which Create the Least Burden and Offer the Most Opportunity for Ireland.

In the power generation sector, increasing onshore and offshore wind capacity are the most economical options from the MACC for electricity production.

Wind Energy Development Guidelines 2006

- Section 5.6 discusses noise impacts, which should be assessed by reference to the nature and character of noise sensitive locations i.e. any occupied house, hostel, health building or place of worship and may include areas of particular scenic quality or special recreational importance. In general noise is unlikely to be a significant problem where the distance from the nearest noise sensitive property is more than 500m.
- Section 5.12 notes that careful site selection, design and planning and good use of relevant software can help to reduce the possibility of shadow flicker in the first instance. It is recommended in that shadow flicker at neighbouring

offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. The potential for shadow flicker is very low at distances greater than 10 rotor diameters from a turbine.

- Chapter 6 relates to aesthetic considerations in siting and design. Regard should be had to profile, numbers, spacing and visual impact and the landscape character. Account should be taken of inter-visibility of sites and the cumulative impact of developments.

Draft Wind Energy Development Guidelines 2019

- Chapter 5 – considering an application for wind energy development.
 - A planning authority may consider some if not all of the following matters:
 - Environmental assessments (EIA, AA etc.)
 - Community engagement and participation aspects of the proposal
 - Grid Connection details
 - Geology and ground conditions, including peat stability; and management plans to deal with any potential material impact. Reference should be made to the National Landslide Susceptibility Map to confirm ground conditions are suitable stable for project;
 - Site drainage and hydrological effects, such as water supply and quality and watercourse crossings; Site drainage considerations for access roads/tracks, separate in addition to the impact of the actual turbines management plans to deal with any potential material impact on watercourses; the hydrological table; flood risk including mitigation measures;
 - Landscape and visual impact assessment, including the size, scale and layout and the degree to which the wind energy project is visible over certain areas and in certain views;
 - Visual impact of ancillary development, such as grid connection and access roads;

- Potential impact of the project on natural heritage, to include direct and indirect effects on protected sites or species, on habitats of ecological sensitivity and biodiversity value and where necessary, management plans to deal with the satisfactory co-existence of the wind energy development and the particular species/habitat identified;
- Potential impact of the project on the built heritage including archaeological and architectural heritage;
- It is recommended that consideration of carbon emissions balance is demonstrated when the development of wind energy developments requires peat extraction.
- Local environmental impacts including noise, shadow flicker, electromagnetic interference, etc.;
- Adequacy of local access road network to facilitate construction of the project and transportation of large machinery and turbine parts to site, including a traffic management plan;
- Information on any cumulative effects due to other projects, including effects on natural heritage and visual effects;
- Information on the location of quarries to be used or borrow pits proposed during the construction phase and associated remedial works thereafter;
- Disposal or elimination of waste/surplus material from construction/site clearance, particularly significant for peatland sites; and
- Decommissioning considerations.

Notable changes within the draft guidelines relate to community engagement, noise and separation distance.

Noise

- Section 5.7.4 - The “preferred draft approach”, proposes noise restriction limits consistent with World Health Organisation Guidelines, proposing a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day

or night. The noise limits will apply to outdoor locations at any residential or noise sensitive properties.

Shadow Flicker

- Section 5.8.1 - The relevant planning authority or An Bord Pleanála should require that the applicant shall provide evidence as part of the planning application that shadow flicker control mechanisms will be in place for the operational duration of the wind energy development project.

Community Investment

- Section 5.10 - The Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement issued by the Department of Communications, Climate Action and Environment (December 2016) sets out 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.

Visual Impact

- Section 6.4- Siting of Wind energy projects.

Set back

- Section 6.18.1 Appropriate Setback Distance to apply - The potential for visual disturbance can be considered as dependent on the scale of the proposed turbine and the associated distance. Thus, a setback which is the function of size of the turbine should be key to setting the appropriate setback. Taking account of the various factors outlined above, a setback distance for visual amenity purposes of 4 times the tip height should apply between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres.
- Policy SPPR 2 – Set back.
- Section 6.18.2 Exceptions to the mandatory minimum setbacks - An exception may be provided for a lower setback requirement from existing or permitted dwellings or other sensitive properties to new turbines where the owner(s) and occupier(s) of the relevant property or properties are agreeable to same but

the noise requirements of these Guidelines must be capable of being complied with in all cases

Guidelines for Assessment of Ecological Impacts of National Roads Schemes, NRA, 2009

- Section 3.3.1 Geographic context for determining value

5.2. Natural Heritage Designations

- Bandon River SAC is located c. 2.9km from the development (c. 3.9km hydrological distance from site via watercourse to south of site)
- The Gearagh SAC – 8.7km from site (c.13km hydrological distance) via a number of watercourses to the north of the site.
- The Gearagh SPA – 10.2km from the site (c.15km hydrological distance) via a number of watercourses to the north of the site.

5.3. EIA Screening

5.3.1. Schedule 5 of the Planning and Development Regulations, 2001 (as amended) transposes Annex I and II of the EIA Directive and sets out prescribed classes of development, for which an environmental impact assessment is required. The following classes are noted:

5.3.2. Part 2 (3)(i) Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts.

5.3.3. An EIAR has been submitted by the applicant and is examined hereunder.

6.0 The Appeal

6.1. Grounds of Appeal

As outlined above 5 no. third party appeals have been received and are summarised as follows:

E Fleming, B McCarthy and T Miller

- Ownership etc of windfarm is not clear.
- Noise impacts from existing windfarm.
- Reference to Derryadd windfarm judgement.
- Excessively wide design envelope, previous board decisions are referred to in the regard, specific clarity should be provided.
- Concerns raised in relation to impacts to Hen Harrier.
- No linking of monitoring of existing windfarm and surveys of proposed.
- Concerns in relation to impacts to bat populations.
- Impacts to local tourism, reference to County development plan policies in this regard.
- Impacts to traffic.

Katie McShane

- Cumulative impact of windfarms are changing integrity of landscape.
- Landscape is saturated with wind development.
- Wind projects are being spilt and smaller extension projects being applied for.
- Concerns relating to cumulative impacts on environment and biodiversity.
- Noise impacts.
- Concerns relating to the designation of the landscape.
- County Cork is accommodating the majority of wind development in the Country.
- Impacts to tourism.
- No consideration of reasonable alternatives.
- Visual impact of turbines.
- Risk to birds, including hen harrier and bats.
- Concerns relating to peat stability.
- Concerns relating to lack of appropriate public consultation

Kathleen and Tim Baker

- Overconcentration of windfarms.
- Concerns over visual impact of turbines.
- Turbines too close to watercourse
- Over development of windfarms.
- Concerns relating to viability of wind as an energy source and cost of storing energy.
- Impacts to tourism.
- Landscape characterisation is not appropriate to area.
- Concerns relating to colour of turbines.
- One way traffic system should be implemented, concerns over width of access road.
- Concerns in relation to culverts.
- Presence of Japanese Knotweed on L-4607, clarity required in relation to other locations of this species.
- Waste water from previous development overflowed into streams.
- Noise concerns.
- Remaining section of townland boundary may be present at T1.
- Clarification in relation to disposal of waste peat.
- Concerns relating to peat stability.
- Concerns relating to accuracy of habitat surveys.
- Concerns relating to presence of Kerry slug and bats.
- Concerns relating to bird mortality rates.
- Concerns relating to previous non compliance.

Karin Kempf

- Misleading description of developer.

- Misleading in relation to number of turbines ...there are 16 present.
- Landscape and area are saturated with windfarms.
- Visual impact of development.
- Loss of property value.
- Tourism impacts
- Shadow Flicker
- Peat Stability.
- Concerns relating to supply to grid and the resultant climate impacts if not required to do so.
- Noise impacts – arising from both construction and operational phases of the development.
- Impacts to visual and landscape.
- Concerns relating to actual size of turbines.
- Proposed turbines will be out of proportion with existing turbines.
- Concerns relating to Property devaluation, valuation from estate agents stating two separate values – with and without turbines.

Tom Jordan

- Proposal was refused based on visual impact
- The development will set a precedent for similar development in the area.
- Substation at Carrigarierk
- Red glow of navigation light has a serious impact on the environmental integrity of the area.
- Noise impacts
- Light pollution.
- Current noise exceedances from existing turbines.

- Breach of Aarhus Convention – residents were not informed of the total windfarm, the development has been divided up into two smaller proposals and is considered to be project splitting.
- Reference is made to the overall disruption caused by the construction of the existing wind development adjacent to the development site.
- There are insufficient guidelines for wind development.
- A full application including retention permission should be sought for the existing turbines and the 3 proposed.
- The proposed turbines should be 10 times the tip height from the nearest dwelling.
- Public has not been adequately consulted about the change in the landscape and was not involved in pre planning consultations with the Council.
- Bird surveys were not carried out over the appropriate time period.
- A number of protected bird species were observed using the site.
- No mention of issues pertaining to Bats within the studies carried out.
- Bat survey was insufficient.
- Borrow pits result in unstable land which is not accounted for in the EIA.

6.2. Applicant Response

MKO have prepared a response to the grounds of appeal which can be summarised as follows:

- Scale and nature of the proposed development is in line with the sustainable development of the area.
- With regard to bats – all surveys were undertaken in accordance with relevant guidelines and appropriate mitigation measures proposed. Additional surveys were undertaken and submitted as part of the FI response. No suitable roost sites were identified within the development site or surrounding area.
- Kerry Slug – An additional survey and management plan was submitted to the Council as part of the further information response.

- Clarification of turbine dimensions were provided within the response to the FI, blade tip heights will range from 175 -176.5 metres.
- With regard to birds – extensive surveys have been carried out as detailed within the EIAR and additional surveys were carried out in response to the Council’s FI request. It is of note that the rate of occurrence of the ornithological receptors was not significantly different during the more recent surveys. No significant effects are therefore expected.
- Based on use of the site, no hen harrier fatalities are expected, one bird on one occasion was observed flying with the area of collision potential.
- Given limited collision risks identified, significant cumulative collisions are not expected.
- A detailed landscape and visual impact assessment was carried out and was deemed acceptable by the Council within the planner’s report.
- In relation to consultation, the website has been continually updated and letters circulated with the website information within the local area.
- The bulk of workers will be sourced locally were available.
- A comprehensive peat stability assessment has been carried out and the proposed development is at a low risk of peat slide.
- No significant hydrological impacts are expected as a result of development.
- With regard to residential amenity, proposed set back is 724m from nearest third-party dwelling.
- Development meets development plan criteria.
- Windfarm is not a recognised source of pollution, significant impacts to human health are not expected.
- Provision of aviation lighting is standard and designed not to be overbearing.
- Noise is considered over three phases of development. Assessment has been carried out in accordance with BS 5228-1:2009 and BS 5228-2:2009.
- Operational noise will be within the required limits and can be controlled via planning condition.

- Shadow flicker can be controlled by appropriate screening measures or turbine control measures.
- Proposed development had regard to the proposed draft Cork Development Plan and complied with the requirements.
- Details of ownership with regard to existing turbines are provided.
- Comprehensive EIAR has been carried out and includes a cumulative assessment, lands proposed were not available at the time of previous application, development is not subject to protect splitting.
- There is an absence of any studies demonstrating an effect on property values as a result of turbines in Ireland.
- No significant effects are expected in relation to townland boundaries.
- Traffic impacts can be adequately controlled by condition and will not give rise to significant effects.

6.3. **Planning Authority Response**

- All technical details are outlined within the documents submitted, no further comment.

6.4. **Observations**

None

6.5. **Further Responses**

The appellants have responded to the applicant's response to the grounds of appeal. No new issues are raised within these responses.

- Karin Kempf – responded to both the other third party appeals and the applicant's response to the grounds of appeal separately. The response to the other third-party grounds of appeal supports the issues raised within these appeals and disputes the applicant's response. There are reiterations of the appellants concerns as set out within the grounds of appeal above. Similarly, within the response to the applicant's response to the grounds of appeal, the

appellant disputes the applicant's response and reiterates concerns raised with the appellants and other third-party grounds of appeal, such reiterations refer to issues relating to detailed design of turbine in terms of dimensions among others. No new issues are raised.

- Elizabeth Fleming – the response supports the issues raised within the other third-party grounds of appeal and disputes the applicant's response; reference is made to a NPWS publication in relation to bats. Concerns are raised in relation to the rate of increase in the number of turbines in the Country and the slow speed at which research has been undertaken in relation to examining the impacts of turbines on bats and bird species. Impacts to ground nesting birds are also of concern within the response.
- Tom Jordan – there is evidence of bats in the surrounding area survey results are incorrect. Surveys should include locals and local knowledge. It is reiterated that surveys are inadequate.
- Kathleen and Tim Baker – Timeframe to respond was too restrictive. No new issues are raised, the appellants are aggrieved that the applicant did not refer to all of the issues raised within their appeal in particular the over saturation of windfarms in the area and the precise locations of Japanese knotweed. There is also reference to issues raised in grounds of appeal in relation to biodiversity impacts.

7.0 **Assessment**

7.1. This is a third-party appeal against Cork County Council's decision to grant permission for three additional turbines at Carrigdangan Windfarm (Carrigarierk) and surrounding townlands in Cork.

7.2. I have reviewed the third party appeals in which there are concerns raised in relation to a significant number of issues. In the interest of clarity, I will address such concerns under the relevant headings of the following assessment it is important to note at this juncture that many of the issues raised naturally fall within the headings of the EIAR and Appropriate Assessment. In the interest of conciseness, I will examine such issues within these sections of the report and will not repeat under the general planning assessment.

- 7.3. In addition, the grounds of appeal will be dealt with on a themed basis rather than referring repeatedly to the individual appellants. The issues raised within the grounds of appeal and subsequent responses are outlined above for ease of reference. I note that the issues raised within the responses to the applicant's response to the appeal are largely similar to those raised within the grounds of appeal.
- 7.4. Having considered the information submitted with the application and the further information pertaining to same, I am satisfied that no new issues arise, and the consideration of the development will pertain solely to the issues raised within the grounds of the third party appeals.
- 7.5. The issues for consideration before the Board are summarised as follows:
- Principle of development
 - Residential impacts – Shadow Flicker
 - Visual impact
 - EIAR
 - Appropriate Assessment

Principle of development

- 7.6. As seen from the policy provisions outlined above, it is clear that there is a positive presumption in favour of renewable energy projects at National, Regional and Local levels. This is reflected in the Wind Energy Development Guidelines for Planning Authorities, 2006, the Southern Regional Assembly RSES and the Cork County Development Plan 2022-2028. Whilst I note that the current Development Plan has an overriding objective to encourage and to favourably consider proposals for renewable energy developments and ancillary facilities in order to meet national, regional and county renewable energy targets, of particular relevance to the proposed development is the identification of the proposed development site within an area in which wind development is open for consideration.
- 7.7. It is stated within section 13.6.7 of the Cork plan that such areas will effectively be treated on their merits and the applicant must be able to demonstrate that they have been designed in a manner which prevents any risk of peat slippage or erosion; and ensures the ongoing protection of water quality and the maintenance of natural

hydrological processes. The cumulative effect of wind energy developments with regard to landscape and visual impacts and also impacts on Natura 2000 sites will also be a consideration.

- 7.8. Having regard to the overriding policy provisions at a national and regional level and the specific wind related local policies which apply specifically to the area within the proposed development site, it is clear that the principle of the proposed development is accepted. However, as mentioned, impacts on the environment and the amenities of the area and local residents will require examination in order to determine the overall suitability of the proposed development. It is important to note at this juncture that Cork County Council did not raise concerns in relation to the acceptability of the proposed development in principle, environmentally or with regard to the visual and residential amenity of the area. It is also of further note that whilst it is recognised that Cork currently accommodates a significant number of wind energy developments, the development plan is clear in its assertions that there is capacity within the county to accommodate additional wind energy development subject to site specific environmental considerations.
- 7.9. With regard to the devaluation of property, whilst I note the valuation document submitted with the grounds of appeal, there is no clear Irish evidence to suggest that a windfarm development removed, in terms of proximity to the degree to which the proposed development is from surrounding property, would impact the value of property in its vicinity.

Residential Amenity and Shadow Flicker

- 7.10. Concerns have been raised within the third party appeals with regard to the potential for impacts to arise in relation to residential amenities, it is considered that such impacts relate to issues such as noise disturbance, traffic generation, dust pollution, visual impacts and shadow flicker. It is important to note that examination of noise, traffic, visual and dust will be examined in detail within the EIAR hereunder and will not be repeated hereunder.
- 7.11. With regard to shadow flicker, I note that the Wind Energy guidelines 2006, recommend that shadow flicker at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. It is stated within Section 7.3 of the EIAR submitted that there are no receptors within 500m of the proposed

development, the scope of the assessment extends to 10 rotor diameters and includes 37 properties with a total of 32 being identified as habitable dwellings, 1 planning permission for a dwelling and 4 derelict properties. The potential flicker that will occur at houses located within the area surrounding the Proposed Development was calculated using the WindFarm software package and a regional sun factor of 32.5% was applied to the annual shadow flicker prediction. When the regional sunshine average (i.e., the mean number of sunshine hours throughout the year) of 32.5% is taken into account, the DoEHLG guideline limit of 30 hours per year will only be exceeded at two of the modelled properties, both of which are participating landowners.

- 7.12. Of the 37 No. properties modelled; it is predicted that 23 properties may experience daily shadow flicker levels in excess of the DoEHLG guideline threshold of 30 minutes per day. This prediction is assuming worst-case conditions (i.e., 100% sunshine on all days where the shadow of the turbines passes over a house, wind blowing in the correct direction, no screening present, etc.) and in the absence of any turbine control measures. With the implementation of mitigation measures, no significant shadow flicker effects are associated with the operation of the site.
- 7.13. It is proposed to stop turbines during times of shadow flicker peaks. The applicant states within the EIAR that they are committed to zero shadow flicker at all receptors.
- 7.14. Thus, whilst I note the third party appellants concerns in this regard, I am satisfied based on the information submitted that shadow flicker can be adequately mitigated and will not significantly impact properties in the vicinity.

Visual Impact

- 7.15. It is contended within the grounds of appeal that the proposed development would give rise to significant visual impacts. It is stated that there is an overconcentration of turbines within the county of Cork and within the area surrounding the proposed development site and there is no capacity within the landscape to absorb additional turbines.
- 7.16. I note from the EIAR submitted that the proposed Carrigarierk 2 Wind Farm is located upon the northern slope of the Carrigarierk ridge in West-Cork. The area of the proposed development is a landscape of Transitional Marginal Land where the remote

upland comprises scrub, moorland, commercial coniferous forestry and agricultural pasture at lower elevations.

- 7.17. The three proposed turbines are located on the northern side of a steep ridgeline that is oriented east to west. Siting of the proposed turbines on the northern side of the ridge provides significant screening from vast areas to the south and west. Photomontages and ZTV mapping showed that visibility of the proposed turbines in areas south of the Carrigarierk ridge is significantly reduced, therefore the landscape and visual impact assessment focussed on areas north of the ridge where most visibility is likely to occur. The landscape of the LVIA study area (particularly to the west, north-west and south-west) is composed of steep glaciated valleys; the location of settlements and transport networks in these areas tend to be located on lower ground within the valleys where views of the Proposed Development are mostly screened from view by the intervening landform. Where the ZTV mapping indicates full visibility in these areas, it is typically confined to higher elevations on valley ridges where the presence of visual receptors is reduced, therefore, greatly reducing the potential for adverse visual and landscape effects.
- 7.18. I note that vegetation within the landscape provides additional screening which limits visibility of this proposed development. In terms of landscape impacts, I note that the proposed development will affect 0.01% of the landscape type in the area and impacts are therefore considered to be localised with the magnitude of effects stated as being moderate.
- 7.19. Three Designated County Cork High Value Landscapes were identified in the LVIA study area, only two had any theoretical visibility of the Proposed Development and were screened in for assessment; LCT 8 - Hilly River and Reservoir Valley, and LCT 16a - Glaciated and Forested Cradle Valley (Gougane Barra), were identified as landscape receptors of high sensitivity.
- 7.20. The Proposed Development is visible from within these landscapes but located at some distance outside them, therefore, effects on landscape character are indirect and the Proposed Development will not materially alter these landscape receptors and landscape effects were not deemed to be significant. 17 no. photomontage were used as tools to conduct an assessment of visual effects from a variety of visual receptors and geographical perspectives surrounding the Proposed Development. The

assessment concluded that residual visual effects of “Moderate” significance was deemed to arise at two of the 17 no. viewpoint locations. All other viewpoints were assessed as resulting in Slight significance (9) and Not Significant (6) residual visual effects.

- 7.21. 10 no. County Cork designated Scenic Routes were assessed as part of this visual assessment. These scenic routes were predominantly located on remote local roads where scenic amenity is attributed to panoramic views of the surrounding mountainous landscape, the Lee River Valley in the north and the Bandon River Valley in the south. Photomontages demonstrate that turbines comprise a small spatial extent of the open and expansive views from many of these scenic routes and are effectively absorbed within the remote mountainous landscape.
- 7.22. Scenic Route 32 runs alongside the western boundary of the Proposed Development site and was identified as a receptor likely to induce adverse visual effects of the greatest significance. Visual effects from this scenic route were assessed by three photomontages. The magnitude of change was substantial for some of these viewpoints due to their location in such close proximity (< 1 km) to the proposed turbines. However, as demonstrated by additional baseline images in the photomontage booklet, the Proposed Development is strategically sited so that it does not obstruct or intrude upon any of the valuable scenic amenity attributed to the area and the scenic route, significantly mitigating the potential for significant visual effects to arise.
- 7.23. Although the Proposed Development will slightly increase the extent of turbines visible within the landscape, from most perspectives surrounding the site it will be viewed in conjunction with the existing Carrigierk Wind Farm which is already part of the existing baseline landscape. Therefore, the introduction of the proposed turbines will not be a novel or dramatic change to the existing baseline conditions. When viewed cumulatively with the other existing, permitted or proposed wind farms in the LVIA study area, the Proposed Development does not transform or redefine the baseline landscape character and is in keeping with current and emerging trends.
- 7.24. Having regard to the information submitted and the nature and scale of the proposed development I am satisfied that the proposed development would not give rise to significant visual impacts or alter the landscape to such an extent as to warrant a

refusal of permission. As such I consider the proposal to be acceptable in this regard and that significant cumulative visual impacts do not arise in this instance. I note that concerns were raised within the third party submissions in relation to the colour of the proposed turbines, such matters can be adequately dealt with by way of condition. It is important to note that white or grey scale is common for turbines in the landscape and as such is considered to be acceptable.

7.25. In addition to the foregoing, it is contended within the third party appeals that the envelope of the development in terms of the size range of the proposed turbines is too large. I would draw the Board's attention to the further information response by the applicant to Cork County Council in which it is confirmed that the design envelope in terms of the turbine height is 175-176.5 metres. Such a range is required to accommodate manufacturing variances and is considered reasonable. A variance of 1.5 metres at such heights will be undetectable from ground level and will not alter the overall visual impact of the proposed development in any material manner, the design envelope has been considered in the context of the EIAR also.

8.0 Environmental Impact Assessment

8.1. The application is accompanied by an Environmental Impact Assessment Report (EIAR) which was prepared by MKO on behalf of the applicant. This EIA section of the report should, where appropriate, be read in conjunction with the relevant parts of the Planning Assessment above.

8.2. The application falls within the scope of the amending 2014 EIA Directive (Directive 2014/52/EU) on the basis that the application was lodged after the last date for transposition in May 2017. The application also falls within the scope of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018, as the application was lodged after these regulations come into effect on 1st September 2018.

8.3. The impact of the proposed development is addressed under all relevant headings with respect to the environmental factors listed in Article 3(1) of the 2014 EIA Directive. The EIAR sets out a case regarding the need for the development (Chapter 2). The EIAR provides detail with regard to the consideration of alternatives in Chapter 2. An overview of the main interactions is provided at Chapter 17. Details of the consultation

entered into by the applicant with Laois County Council and other prescribed bodies as part of the preparation of the project are also set out in the application documentation.

- 8.4. Article 3 (2) of the Directive requires the consideration of the effects deriving from the vulnerability of the project to risks of major accidents and / or disasters that are relevant to the project concerned. The potential for 'unplanned events' is addressed within the relevant sections of the EIAR.
- 8.5. The potential for 'flooding' is considered in Section 14 Hydrology and Water Quality. I consider that the requirement to consider these factors under Article 3(2) is met.
- 8.6. In terms of the content and scope of the EIAR, the information contained in the EIAR generally complies with article 94 of the Planning and Development Regulations 2001, as amended, all studies informing the EIAR are up to date and recently acquired. Additional pre-construction surveys will be required in order to provide up to date information in relation to invasive species, mammals, bats and birds, however such issues can be adequately dealt with by condition.
- 8.7. It is important to note at the outset that the proposed development under consideration within this application does not cross international boundaries and as such the need to consider transboundary effects does not arise.

Alternatives

- 8.8. The consideration of alternatives is outlined within Section 3 of the EIAR submitted and includes the consideration of alternatives in relation to site selection, alternative designs, alternative processes and a do-nothing scenario. The site currently accommodates 5 turbines which have been constructed without environmental incident, there is existing infrastructure present which can be utilised. The alternative is to develop a greenfield site. The extension of the existing site was therefore considered more sustainable than a greenfield alternative.
- 8.9. In selecting sites, the applicant reviewed relevant Development Plan and Renewable Energy Strategy provisions for these potential sites. Sensitivity in terms of visual impacts, proximity to residential areas, scenic areas, accessibility and wind speeds were additional criteria utilised to define the site location.

- 8.10. Alternative technologies were considered but would require a larger footprint and were therefore not viable options. Alternative turbine sizes were also considered, smaller numbers would require a larger footprint and additional infrastructure. The proposed turbines were therefore considered less environmentally intrusive.
- 8.11. In terms of the alternative design, it is stated within Section 3.3.6.1 of the EIAR that the process took into account the requirements of the draft Wind Energy Guidelines and developed a constraints map as contained within Section 3 of the EIAR in which all constraints are identified. This map provided clarity in terms of site suitability.
- 8.12. Whilst I note the concerns raised within the third-party appeal in relation to alternatives considered I am satisfied based on the information submitted that the proposed project has been developed through an iterative process which sought to avoid or reduce potential environmental effects through options appraisals and evaluation whilst having regard to consultations and feedback from a range of bodies, agencies, landowners and the public.
- 8.13. In my opinion reasonable alternatives have been explored and the information contained in the EIAR with regard to alternatives provides an adequate justification for the site, layout, construction methodology and grid connection route chosen and is in accordance with the requirements of the 2014 EIA Directive.

Population and Human Health

- 8.14. Chapter 5 of the EIAR submitted addresses population and human health. Effects of the construction, operation and decommissioning of the wind farm development in terms of how the proposal could affect population, human health, employment and economic activity, land-use, residential amenity, community facilities and services, tourism, property values, shadow flicker, noise and health and safety are addressed. The Study Area for the purpose of this assessment on Population and Human Health primarily focuses on the local receiving human environment in the vicinity of the wind farm development, defined in terms of the District Electoral Divisions (DEDs) where the site, and where relevant, nearby DEDs which may be affected by the proposed development. The proposed development lies predominantly within Bealock, while small areas to the west and southwest of the site are within the District Electoral Division of Coolmountain. The existing substation which the Proposed Development

will connect into is located to the southeast of the proposed turbines within the DED of Carrigboy.

- 8.15. The Study Area has a population of 1,214 persons, as of 2016 and comprises a total land area of 94.4 km². I note that the closest third-party house is located c. 724 metres from the site. Population trends according to census data appear to be increasing but at a significantly limited level, just above 1% and the area contains an older population. In term of impacts arising from the proposed development the project is unlikely to have a significant effect on population numbers of the area and there will be no loss of residential dwellings or displacement of the existing population. Overall, throughout construction, operation, and decommissioning, it is expected that the development will have a neutral impact on population numbers.
- 8.16. During the construction and operational phases, it is predicted that there will be positive impacts on the local economy due to direct and indirect job creation, the proposed construction duration is expected to last 9-12 months and will employ people locally where possible. It is also expected that the operational stage of the proposed development would bring added benefit to the local community through the provision of a community benefit fund. This fund would assist local communities to enhance and/or maintain a range of amenities and services for residents in the local towns, villages and surrounding hinterland, which in turn would help sustain existing population levels in the area.
- 8.17. While there is the potential for construction related hazards, serious risks to human health and safety are not envisioned. During construction and decommissioning the site will be managed in accordance with the following safety and health regulations and guidelines which will ensure a high standard of safety both for workers on site and the general public.
- 8.18. With regard to tourism, I note that there are no tourist attractions within the site but the varied landscape and rural setting of the site provides opportunity for outdoor activities. It is contended within the third-party submissions that the proposed development would impact tourism within the area. I note in this regard, within Section 5.3.3.2 of the EIAR that the applicant refers to Failte Ireland surveys carried out in 2007 and 2012 in relation to the impact of turbines on visit experience and whether the presence of turbines would impact a return visit. It is concluded within these surveys that three

quarters of the people surveyed claimed that greater windfarm development would not have any impact on their decision to return and some claimed that the presence of more windfarms would increase their likelihood to return given their support for renewable energy.

- 8.19. From the surveys carried out it is clear that for the significant proportion of visitors to the country windfarms do not impact their decision to visit an area. I note however that 1:7 people claimed that an increased number of windfarms would negatively influence their decision to visit. Given the results of this survey, I am satisfied that the presence of windfarms would not negatively impact tourism to the area.
- 8.20. Impacts on health and wellbeing arising from effects of the construction and operation phases of the development specifically in relation to noise, dust and soil material removal and movement operations are considered and discussed under the respective headings of the EIAR.
- 8.21. Residual impacts on human health and population are not anticipated provided that the proposed mitigation measures are fully implemented. Shadow flicker has been modelled and exceedances of 30 minutes per day may be experienced at 23 no. properties, in addition exceedances in excess of 30 hours per year threshold are also expected, as a result a shutdown system will be installed to prevent any adverse impacts in this regard. I note concerns raised within the submissions received in relation to light pollution and note that a warning light system is required for the safety of aircraft and given the distance of the proposed development from the nearest dwellings I am satisfied that significant light pollution will not arise.
- 8.22. I have considered all of the written submissions made in relation to population and human health and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on population and human health can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on population and human health can be ruled out. I am also satisfied that cumulative effects, in the context of existing wind development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Biodiversity

- 8.23. Section 6 of the submitted EIAR assesses and evaluates the potential for significant impacts on biodiversity. The impact of the proposed development on European sites is addressed in detail in Section 9 of this report.
- 8.24. The habitats, flora and fauna of the site were assessed by means of a desk study of literature pertinent to the site and surrounding area, and field surveys including a survey of habitats and flora and walkover faunal surveys along with general observation work. Surveys were undertaken on the 24th February 2021, 30th April 2020, 12th May 2020, 25th June 2020, 26th August 2020, 13th & 25th November 2020.
- 8.25. The Proposed Development is located approximately 3 km south of the village of Inchigeelagh and approximately 8.5km north of the town of Dunmanway. The site is situated north of the Regional Road R585 which is approximately 15km southwest of Macroom, Co. Cork. A total of 11 habitats were recorded within the study area which is dominated by improved agricultural grassland (GA1) and conifer plantation (WD4). Additional habitats include wet grassland (GS4), scrub (WS1), spoil and bare ground (ED2), stonewall and other stonework (BL1), drainage ditches (FW4), wet heath (HH3), dry heath (HH1) and eroding/upland rivers (FW1). There were no Annex I habitats within the Proposed Development footprint.
- 8.26. The watercourses which drain from the Proposed Development site provide hydrological connectivity with the River Lee to the north and the Caha watercourse to the south of the site. The Proposed Development is located approximately 3.8 km north of the Bandon River SAC [002171] and c.9.0 km south west of the Gearagh SAC [000108] via hydrological distance. The impact of the proposed development on European sites is addressed in detail in Section 9 of this report. However it is important to note at this juncture that the risk of water pollution to other nearby European sites can be excluded due to the mitigation measures proposed and the separation distance from the proposed development site to these sites.
- 8.27. While the potential for effects on the qualifying interests of these sites is remote due to the level of separation in some instances and mitigation measures proposed, it is necessary to dispel any reasonable scientific doubt that may exist. The NIS Report submitted considers the potential for effects on the aforementioned SACs and SPAs both individually or in combination with other plans or projects and considered that the risk of significant effects is unlikely.

- 8.28. I am satisfied, based on the information submitted with the file and discussed within the Appropriate Assessment section below, that the applicant has adequately demonstrated beyond reasonable scientific doubt that the proposed development would not adversely affect the integrity of these SPAs and SACs in view of these sites Conservation Objectives.
- 8.29. Potential impacts on biodiversity associated with the proposed development include loss of habitat and disturbance or displacement of species. It is important to note at this juncture that impacts effecting the hydrological regime of the area are examined in section 9 of the EIAR and an assessment of the impacts on relevant habitat will be assessed in further detail under this heading below.
- 8.30. I note that no invasive species are found within the footprint of the proposed development, however a number of stands of Japanese Knotweed have been found within the study area. With regard to species surveys I note that there was no evidence of badgers activity within the site, in addition there were no signs of otter, however it is noted that there is suitable habitat for this species present. A bat survey was carried out and it is stated that much of the site, such as areas of closed canopy and open agricultural lands are not suitable habitat for bat species. No roost sites were recorded in the site and bat usage of the site is deemed to be of local importance with the most common bat recorded being the Common Pipistrelle followed by Leisler's Bat. I have reviewed the surveys undertaken and note the third parties' concerns relating to the duration of the surveys undertaken, it is of note in this regard that there is no specified number of days for which surveys must be undertaken outlined with the Bat Mitigation Guidelines for Ireland, 2006. I note that the applicant has undertaken surveys within the relevant period and is therefore compliant with the guidelines in this regard.
- 8.31. One single Kerry slug was found during the survey.
- 8.32. 4 sample locations were identified at watercourses and were given Q values ranging between Q5 and Q2, values were assigned due to the presence of invertebrates. Invertebrate sample results are outlined in tables 6-14 6-17 of the EIAR.
- 8.33. There were no records of common frog, common lizard, or smooth newt during the site surveys, however it is likely that such species are present within the area. The applicant states in this regard, that the proposed development will not significantly impact such species due to the abundance of suitable habitat within the area. It is also

noted that no significant habitat for salmonoids, lamprey, coarse fish, white clawed cray fish, European eel, aquatic invertebrates or other aquatic species were recorded within the footprint of the proposed development.

- 8.34. Other species such as fox and rabbit were recorded during surveys but no dens are present within the development area.
- 8.35. It is of note that the applicant refers to replacement forestry lands within the application, the felling and replacement of forestry is subject to the provisions of the Forestry Act and associated regulations and are not a matter the Board can finally determine except with respect to the baseline existing environment and if of relevance, cumulatively.

Potential Impacts & Mitigation

- 8.36. Overall, it is stated within the EIAR that given the modified and managed terrestrial habitats there is limited suitable habitats on site to support significant populations of protected faunal species. It is of note that a total of 6.89 hectares of forestry will have to be permanently felled to accommodate the proposed development with a further c. 26 hectares to be temporarily felled. I note that where forestry is to be felled in relation to turbulence issues, a short rotation forestry approach will be taken. It is important to note that the development site has been developed for commercial forestry and as such is an ever-changing environment with trees at various stages of growth throughout. Based on the fluid nature of the landscape I am satisfied that impacts to forestry will not be significant.
- 8.37. No otter was observed within the study area, however, a precautionary approach is proposed as it is assumed that otter are present downstream of the proposed development. Mitigation is therefore proposed in relation to the protection of surface waters from sediment and pollution. Such measures will be examined within the hydrology section of this report and also relate to the protection of aquatic habitats. Details of surface water mitigation are discussed within the relevant section of this report and will not be repeated at this juncture. It is important to note that no instream works are proposed and with the implementation of surface water mitigation no significant residual impacts to otters or other aquatic species are expected.
- 8.38. Impacts will arise to faunal species recorded on site; however, the magnitude of effects are not expected to be significant due to the abundance of available habitat in the

area. Specific regard has been had to the protected species recorded on site as follows:

Bats

- 8.39. There is a potential for impacts to bats to arise in relation to the reduction in feeding habitat as a result of construction and I note third party concerns in this regard, however it is stated that the felling of forestry will open up edge habitat and provide additional linear landscape features which may be utilised by bats for commuting or foraging. The proposed development will not result in any net loss of foraging habitat and there will be no loss of any roosting site of ecological significance. Operational impacts relate to barotrauma, however I note that buffers are proposed to attract bats away from turbines and therefore prevent such affects from occurring.
- 8.40. Mitigation measures which relate to best practice are proposed and seek to further avoid and reduce the potential for any effects to occur. Measures include the control of noise during construction, the use of directional lighting and reduction of light spillage, the provision of a 50 metre buffer between turbine tip and nearest woodland and the maintenance of this vegetation free area for the duration of the operational stage of the development.
- 8.41. Post construction monitoring will also be carried out for a period of three years in order to ensure the effectiveness of mitigation proposed. Significant residual effects are therefore not anticipated.
- 8.42. Based on the information submitted in relation to baseline bat conditions and the measures proposed to protect this species, I am satisfied that significant impacts will not arise in this regard.

Kerry Slug

- 8.43. Given that a single Kerry slug was observed within the study area, there is a potential for impacts to arise in relation to this species, as suitable habitat was observed within proximity to the proposed development. Construction works have the potential to directly impact this species by the removal conifer plantation in which the slug was recorded. It is of note however, that there is an abundance of this habitat within and surrounding the development site which will remain unaltered.

- 8.44. Mitigation measures are nonetheless proposed and include the translocation of slugs should they be encountered within the development site, this will be carried out under a derogation order. A pre derogation application survey and trapping exercise will be undertaken in order to determine the number of slugs to be relocated, the method for such an exercise is outlined within section 6.6.3.1.5 of the EIAR and will be carried out in accordance with NPWS requirements.
- 8.45. Habitat management and enhancement areas are proposed in order to minimise habitat disturbance such measures are outlined within the aforementioned section of the EIAR. Additional measures include the demarcation of the development area after trapping has been carried out in order to prevent any encroachment upon habitat outside of the works areas. Following the implementation of mitigation, no significant residual impacts are expected.
- 8.46. With regard to decommissioning of the development it is stated that there will be no additional habitat loss and such operations will not give rise to significant effects. A decommissioning plan has been prepared and is included within Appendix 4-7 of the EIAR submitted.
- 8.47. The proposed development has been considered in combination with existing and permitted development in the area including windfarms and in the context of plans affecting the area as outlined in table 6-26 of the EIAR, no significant cumulative impacts are expected.
- 8.48. I have considered all of the written submissions made in relation to biodiversity and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on biodiversity can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures or with suitable conditions. Potential for direct or indirect impacts on biodiversity can be ruled out. I am also satisfied that cumulative effects, in the context the proposed grid connection and other existing and proposed development in the vicinity of the site, are not likely to arise.

Ornithology

- 8.49. Section 7 of the EIAR submitted examines the potential for impacts to arise in relation to Ornithology. It is important to state at the outset that a number of concerns were

raised within the submissions from third parties in relation to the presence of Hen Harrier on the site and the potential for impacts to bird species.

- 8.50. In order to establish the potential for impacts to arise in relation to birds it was necessary to establish the baseline conditions of the site and surrounds. A desktop survey was undertaken, documents and mapping are referenced in Section 7 of the EIAR. The development site was viewed within the bird sensitivity spatial tool and is largely within an area identified as a 'Low Sensitivity Zone'. Field surveys were undertaken from April – September 2014 and October 2019 to March 2021. Specific surveys pertained to breeding birds, breeding raptors, hen harrier roosts, winter transects and wildfowl distribution.
- 8.51. It is important to note at this juncture that during bird surveys Hen Harrier were rarely recorded at the site or within 500 metres, the same is true of other species recorded at the site. There are no breeding or roosting sites recorded within the proposed development boundary and sightings of birds mainly related to birds flying over the site. It is important to note that a collision risk assessment has been carried out by the applicant in relation to species recorded flying at potential collision height and is included within appendix 7.5 of the EIAR. No significant impacts are expected in relation to collisions. The overall magnitude of effects arising from site investigations range from imperceptible to slight.
- 8.52. The potential for impacts to arise in relation to bird species relates to all phases of the development. During construction the development will result in the loss of habitat through the felling of trees and disturbance as a result of noise. Any loss of currently suitable forestry habitat owing to the project will not be significantly above that which would occur and does occur as a result of the forestry operations at the project site. It is therefore considered the magnitude of the habitat loss described will range from imperceptible for some bird species to slight for others.
- 8.53. Operational phase of the development may give rise to collisions, however such impacts as outlined above are not deemed to be significant. Decommissioning of the development also has the potential to give rise to loss of habitat in places where vegetation is required to be removed to facilitate the removal of infrastructure and noise generation.

- 8.54. Section 7.9 of the EIAR outlines the proposed mitigation measures which seek to prevent impacts to birds. Such measures include pre works surveys particularly in relation to the removal of woody vegetation, to be carried out in order to establish the presence of any ground nesting birds. Where sections of woody vegetation are removed for junction and road upgrade, these areas will be replaced with suitable hedge or tree species, machinery will be turned off when not in use to avoid noise disturbance and it is of note that the cable will be laid underground along existing infrastructure to avoid effects on roadside hedgerows and disturbance to nesting birds. Should the Board be minded to grant permission I recommend a condition restricting the felling of trees to the appropriate period outside of bird breeding season.
- 8.55. I further note that a post construction bird monitoring programme has been prepared and is contained within appendix 7-6 of the EIAR and will ensure that the proposed development is not significantly impacting bird populations during the operational phase of the development.
- 8.56. Cumulative ornithological effects are considered within section 7.12 of the EIAR whereby it is concluded that the proposed development will not give rise to significant cumulative effects.
- 8.57. In conclusion, it is stated within the EIAR that with the avoidance measures (mitigation by design), and best practice in place (mitigation by management), and provided all mitigation measures are implemented in full, significant residual effects on avian Key Ecological Receptors are not expected.
- 8.58. I have considered all of the written submissions made in relation to ornithology and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on ornithology can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures or with suitable conditions. Potential for direct or indirect impacts on ornithology can be ruled out. I am also satisfied that cumulative effects, in the context of the proposed grid connection and other existing and proposed development in the vicinity of the site, are not likely to arise.

Land Soils and Geology

- 8.59. Section 9 of the submitted EIAR assesses and evaluates the potential for significant impacts on lands and soils and geology. The development site, which have a total

area of 152 hectares it's located on the eastern flanks of the shehy mountains which exists north of regional road R585 between the towns of Kealkill and Shanlaragh in County Cork. The Shehy Mountains in the vicinity of the proposed development are characterised by rocky ridgelines which have a general SW NE orientation.

- 8.60. All proposed turbines are located on the northern slopes of the proposed development site. Peat is the predominant soil type with bedrock close to or at the surface over much of the site. 243 heat probes were undertaken within the proposed development site. A gouge core was also undertaken at each or adjacent to the key development location to investigate peat and mineral subsoil lithology.
- 8.61. Peat depths at the proposed development site range from 0-2.85 metres. Deeper peat areas were avoided when determining turbine locations. A peat stability assessment was undertaken by the applicant and is included in Appendix 8-1 of the EIAR. The conclusions of the peat stability assessment indicate that the development site has an acceptable margin of safety and is suitable for a windfarm development. It is important to note at this juncture I have had regard to the Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments prepared by the Scottish Government in 2017, in the assessment examination of peat stability in the development site and whilst I note the concerns raised within the third party appeals in this regard, I am satisfied based on the information submitted that the applicant has adequately considered the potential for peat instability with the windfarm site.
- 8.62. A borrow pit is proposed within the site which will be reinstated with excavated peat, subsoil and bedrock. A proportion of excavated materials will be reused in landscaping. Quantum's of excavated material are outlined in table 8-9 to 8-10 and indicate that a total of 25,200m³ of peat and spoil are to be excavated along with 21,500m³ of bedrock.
- 8.63. Potential construction impacts relate to the mobilisation of soils through movement of peat and glacial till deposits. Peat stability has been examined above and I am satisfied that the site does not pose a significant threat to such an event. Additional soil impacts relate to contamination of soils from hydrocarbon spillages and leakages.
- 8.64. In terms of the operational phase of the development there may be a requirement for minor excavations in the event of an infrastructure fault occurring. There is also a

potential for leaks to occur in relation to the transformer equipment within the substation element of the development.

- 8.65. Potential effects in relation to the decommissioning of the development will be similar to that of the construction phase.
- 8.66. Major accidents are considered in the context of peat slide which as aforementioned has been examined above.
- 8.67. Overall, the magnitude of unmitigated effects is considered to be slight with the exception of peat slippage which would give rise to significant effects.
- 8.68. Cumulative effects are considered within section 8.5.8 of the EIAR and are considered in the context of existing and permitted development including the Carrigarierk Wind Farm. Cumulative impacts are not considered to arise and will not be considered further in this regard.

Mitigation

- 8.69. Section 8.5.2.2 to 8.5.4 of the EIAR outlines proposed mitigation measures in relation to the proposed development, which refer to the following:
- Placement of turbines in shallow peat, use of existing infrastructure,
 - The peat and subsoil which will be removed during the construction phase will be localised to the turbine location and access roads,
 - Refuelling in dedicated locations using mobile double skinned fuel bowser,
 - Use of bunded areas to store fuel,
 - Regular inspections of vehicles for leaks,
 - The use of brash mats to support vehicles on soft ground.
 - With regard to peat stability, it is proposed to employ a geotechnical engineer to ensure the implementation of best practice in this environment. The methodology of all civil works will be reviewed by this engineer and the monitoring posts will be the subject of a dedicated inspection on a weekly basis by the geotechnical engineer.
 - The use of Settlement ponds

- With regard to the cable route, excavated material will be reused for backfilling trenches.

8.70. Mitigation measures in relation to the prevention of hydrocarbon contamination are similar to those outlined in above within the water section of this report and will not be repeated hereunder. It is of note that an emergency plan to deal with accidental spillages will be contained within the Construction Environmental Management Plan.

8.71. All mitigation measures proposed in relation to land, and soils are common practice on such development sites and are known to be effective, I am therefore satisfied that the proposed mitigation will adequately protect the surrounding environment. I note that no significant residual effects are expected. I further note that similar mitigation is proposed in relation to the decommissioning of the development and will give rise to similar affects.

8.72. I have considered all of the written submissions made in relation to lands and soils and the relevant contents of the file including the EIAR. I am satisfied that the potential for direct or indirect impacts on lands and soils can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on lands and soils can be ruled out I am also satisfied that cumulative effects, in the context of existing and permitted development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Water

8.73. Section 9 of the EIAR examines the potential impact of the development on hydrology and Water quality. In order to establish baseline conditions, a desktop study was carried out and site walkovers and investigations were undertaken in September 2020 and February 2021. Two water samples were also taken to establish water quality.

8.74. The proposed development site is located along a topographic divide separating two regional surface water catchments, the River Lee and River Brandon. Both regional catchments are within the South Wester River Basin District. It is important to note at this juncture that the proposed development is not located within any European protected sites, however there is connectivity with the River Brandon SAC and Gearagh SAC. Impacts to such designated sites will be examined in detail within the

Appropriate Assessment section of this report and will therefore not be repeated hereunder. The site is located significantly upstream of the River Brandon and is connected via a number of streams, tributaries and field drains, it is concluded by the applicant that there is no likelihood of significant effects arising from the proposed development to the River Brandon SAC.

- 8.75. In terms of flooding, no reoccurring flood incidents have been recorded within the development site. 1:100 year flooding occurs along the main watercourses draining the site at the western and eastern sides outside of the development site. Due to the elevated position of the site, it is stated that flooding will not occur within the proposed development boundary. Run off from the site will discharge at existing Greenfield rates and surface water will be designed to maintain such rates in order to prevent any impacts to existing flood levels downstream.
- 8.76. Surface water quality is examined in section 9.3.7 of the EIAR and receiving waters such as the Caha River have a Q rating of good status. Water quality in surrounding drains achieved high to good status after sampling.
- 8.77. The proposed development is underlain by an aquifer of extreme vulnerability due to the presence of bedrock at or near to surface, however bedrock permeability results in a restriction of ground water flow at this location. As such significant impacts to ground water are not expected to arise. In addition, it is of note that there are no public water supplies or group schemes wells in the vicinity of the proposed development and there are no mapped GSI wells within 4km of the proposed development.
- 8.78. In response to concerns raised in relation to impacts on local drinking water, I note that the applicant has specifically addressed such concerns in section 9.3.14 and states that all ground water supplies are hydrologically remote from the proposed development and will therefore not be affected.
- 8.79. I note that one local surface water abstraction location has been identified within 300m to the north and downslope of Turbine no. E3, drainage control measures are proposed to ensure that there is no runoff from the windfarm development into any watercourses.
- 8.80. Potential Impacts

- 8.81. Activities associated with tree felling, new access tracks, upgrade of tracks, turbine hard standing, cable connection to substation and other new hard surfaces all have the potential to contribute to an increase in run off. It is of note that the borrow pit is located within an area that is unproductive for groundwater and no groundwater dewatering will be required for this element of the proposed works. In addition, it is expected that run off will decrease over time as vegetation recolonises disturbed areas. The overall magnitude of effects to receiving waters is expected to be negligible.
- 8.82. Notwithstanding that runoff levels are expected to be low, surface water impacts are likely to arise as result of hydrocarbon, sediment and / or concrete release during construction or storage during operation, such impacts relate to both the wind farm site and the grid connection.
- 8.83. Whilst I note the concerns raised within the third-party submissions in relation to hydrology I note that it is proposed to incorporate an appropriate drainage design into the construction of the proposed development which will be the primary mitigation measure for the development and will incorporate silt control measures and reduction in the rate of surface water runoff from the proposed development.
- 8.84. Other mitigation measures are outlined in section 9.5.2 of the EIAR and include the installation of stilling ponds, silt fencing, silt traps and swales, interceptor drains, cross drains, check dams and the use of bunded areas for the storage of fuels and oils and the use of spill kits and leak proof containers and the provision of a 50 metre buffer between any watercourse and the proposed works. All of which are standard practice and known to be effective in the protection of water quality. I am satisfied based on the information submitted that the applicant has proposed adequate measures to prevent the deterioration of adjacent watercourses including the River Brandon and River Caha.
- 8.85. With regard to the cable route, it is proposed to divert water from entering trenches through the use of sandbags and the reinstatement of excavated material. There will be no stockpiling of material and waste material will be removed by a licenced contractor in accordance with the CEMP which is included in appendix 4-4 of the EIAR.
- 8.86. No karst features are present underneath the development site and there are no source protector zones within the proposed development boundary.

- 8.87. As mentioned above, the nearest property is in excess of 500 metres from the proposed windfarm development. Given the separation distance from these properties and that no abstraction processes will be undertaken at the site it is significantly unlikely that the proposed development would pose any threat to domestic water supplies in the area. Dewatering will only relate to turbine foundations and will occur for a limited period only.
- 8.88. Mitigation measures outlined above will also prevent any impacts arising from fuel or lubricant spillages affecting ground water quality.
- 8.89. Overall, it is stated within the EIAR that subject to the implementation of mitigation measures outlined, no significant impacts on the water environment from the proposed development will occur during construction, operation, or during decommissioning phases of the wind farm.
- 8.90. Cumulative impacts have been considered in conjunction with all other existing, approved or proposed projects and given the nature of the proposed works are considered to be unlikely.
- 8.91. I have considered all of the written submissions made in relation to water and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on water can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on water can be ruled out. I am also satisfied that cumulative effects, in the context of existing and permitted development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Air Quality and Climate Change

- 8.92. Section 10 examines the impacts of the development on climate and air. A desktop study was undertaken of available climatic information to characterise the climate in the local region.
- 8.93. Local air quality conditions are outlined in Section 10.1.4 of the EIAR and are based on data from the synoptic station located at CIT and South Link Road.
- 8.94. Potential air quality impacts are anticipated to be short term confined to the construction phase of the development. Emissions will be solely associated with

construction vehicles and the generation of dust. The overall magnitude of effects is considered to be short term and slight.

- 8.95. It is proposed to mitigate such emissions by maintaining machinery and vehicles in good working order, using specified haul routes, implementing dust suppression measures during dry weather and implementing measures outlined within the CEMP which is contained within appendix 4-4 of the EIAR.
- 8.96. With regard to the operation of the development it is stated that there will be a small number of vehicles entering the site, no significant effects are expected from these activities. Overall, it is stated that the operation of the windfarm will result in positive impacts on air quality due to the displacement of fossil fuels as an energy source.
- 8.97. Carbon balance are also examined within Section 10.2.3 of the EIAR. It is stated that the proposed development will result in some carbon losses due to the manufacturing, construction and decommissioning stage of the wind turbines and the drainage and excavation of organic soil/ peat during the construction phase. These losses amount to 23,594 tonnes of CO₂. The losses in relation to peat assume that peat comprises of acid bog, however while there is peat across the site, it is not by definition a fen or acid bog. The site is highly modified and has been drained to facilitate commercial forestry. The hydrological regime across the site has already been significantly altered.
- 8.98. The proposed wind farm will displace 357,625 tonnes of CO₂ over the a 25 year period.
- 8.99. Cumulative impacts were considered under Section 10.3 of the EIAR. Developments within the vicinity of the site were considered, as were the felling of trees and other windfarms and it was concluded within the EIAR that cumulative impacts would not arise. The potential cumulative impact with other renewable energy projects will be a long term significant positive effect on air quality and climate.
- 8.100. Mitigation in the form of a Construction Environmental Management Plan is proposed and will guide development in a manner which reduces dust and fugitive machinery emissions arising at the development site. Measures will include the prevention of idling vehicles and the maintenance of vehicles in good working order so as to prevent leakages and unnecessary air emissions. No significant residual emissions are expected in this regard.

8.101. I have considered all of the written submissions made in relation to Climate and Air and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on Climate and Air can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures or with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on Climate and Air can be ruled out. I am also satisfied that cumulative effects, in the context of existing wind development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Noise and Vibration

8.102. Section 11 of the EIAR submitted examines the baseline noise conditions and outlines the predicted noise levels arising from the proposed development. A full noise assessment and predictive modelling has been carried out by the applicant to inform the EIAR. Background noise values were recorded and correlated with the particular wind speed at the time. In total, 2 noise monitoring locations (NML) were selected to characterise the existing noise environment and derive the noise limit criteria for potentially impacted locations. The location of each noise monitoring station is identified within Plate 11-1 to 11-4 of the EIAR.

8.103. Prevailing background noise levels are outlined in table 11-11 of the EIAR. Predicted noise levels in relation to construction are outlined in table 11-13 to 11-15 of the EIAR and it is of note that worst case scenario results show that noise outputs at the nearest sensitive receptor to each element of the development does not exceed the construction noise threshold as per British Standard BS 5228:2009 Noise and Vibration Control on Construction and Open Sites.

8.104. With regard to the operation of the development it is important to note that the current Wind energy Development Guidelines (2006) permit a maximum of 45dB in relation to noise emissions. The preferred draft approach as set out within Section 5.7.4 of the draft Wind Energy Development Guidelines 2019, propose noise restriction limits consistent with World Health Organisation Guidelines of 5dB(A) above existing background noise within a range of 35 to 43Db(A) with 43dB(A) being the maximum noise limit permitted day or night. Noise predictions outlined in the noise assessment within appendix 11-5 of the EIAR do not exceed those permitted under the 2006

guidelines. Should the Board be minded to grant permission I recommend that a condition is imposed which seeks turbines to be shut down if noise emissions exceed the specified thresholds.

8.105. Noise predictions in relation to the proposed grid connection are associated with construction only and will be carried out during restricted hours.

8.106. I note that the EIAR also refers to amplitude modulation (AM) and tonal noise which can arise from transient stalls in blade rotation. These sounds are low frequency and can travel extensive distances. With regard to AM I note that at present there is no way of predicting OAM at any particular location before turbines begin operation due to the general features of a site or the known attributes of a particular turbine. The applicant therefore states that should AM arise it will be investigated thoroughly and if a complaint is justified, the required mitigation measures will be undertaken.

Mitigation

8.107. Section 11.5.5 of the EIAR outlines construction phase mitigation measures in relation to noise emissions and includes the measures to reduce noise and vibration during construction. Wherever possible the contractor should inform residents where appropriate of deliveries outside of normal working hours and any other works in advance, this can be adequately controlled by condition should the Board be minded to grant permission.

8.108. All vehicles will be fitted with exhaust silencers and maintained in good working order to reduce noise impacts.

8.109. Significant residual impacts are not expected to arise. Cumulative noise emissions were also modelled in relation to all works on site and other windfarms within the vicinity of the development site and are not considered to be significant in relation to any phase of the proposed development.

8.110. I have considered all of the written submissions made in relation to noise and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on noise can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on noise can be ruled out. I am also satisfied that cumulative effects, in the context of

existing wind development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Cultural Heritage

- 8.111. Section 12 of the EIAR examines the potential for impacts to arise on cultural heritage. I note that concerns are raised in this regard and the potential for impacts to arise in relation to tourism. A desktop survey was carried out in order to identify constraints or features of archaeological / cultural heritage potential within or near to the development site. Field inspections were carried out in September and October 2020.
- 8.112. A number of old stone walls forming the entrance to a 19th Century house which is a ruin was noted near to Turbine E2. A number of 19th Century or later structures were recorded to the north of the turbine E3.
- 8.113. It is important to note at the outset that three recorded monuments are located within the EIAR boundary. These monuments are outlined in table 12-3 of the EIAR and include a standing stone, a mass rock and a mass house. The standing stone is located to the north of E3 and the Mass rock and the mass rock is located to the east of the existing site track constructed as part of the existing windfarm with the Mass house located to the west of the track. It is stated within the EIAR that a 30 metre buffer zone has been erected around both the Mass Rock and Mass House as a consequence of the permission for the existing 5 turbines adjacent to the site.
- 8.114. No unrecorded features of archaeological or cultural heritage were identified within the windfarm site and archaeological monitoring of the existing windfarm did not discover any additional material of archaeological significance.
- 8.115. It is stated that due to intensive land improvement works throughout the windfarm area and road carriageway construction along the UGC route the overall archaeological potential to reveal subsurface archaeological features is low. I note that field walkovers indicate that lands within the windfarm are non-archaeological in nature.
- 8.116. The delivery route and grid connection route were also examined with regard to archaeology and cultural heritage and I note that the grid connection is largely within the proposed internal road routes. With regard to the delivery route I note that a single berm at the Inchincurka junction will require temporary removal to facilitate the delivery.

Potential impacts

- 8.117. Potential direct impacts relate to the construction phase of the development whereby existing monuments could be impacted or undiscovered archaeology could be disturbed by the proposed works. As mentioned above buffer zones have been provided between proposed works and monuments which will prevent any impacts from arising and all excavation works will be monitored to ensure that archaeological material is adequately treated if discovered.
- 8.118. The potential for indirect effects relates to the visual impact that the proposed development could have on existing monuments etc outside of the development site. All monuments within 10km and some beyond have been considered in this context within the EIAR. Impacts to standing stones in relation to the solstice have also been considered and no it is stated that no significant impacts are expected. Whilst many monuments are theoretically visible from the proposed development site and vice versa, in reality vegetation and buildings obscure such intervisibility. I am therefore satisfied that visual impacts in the context of cultural and architectural heritage will not arise in this instance.
- 8.119. Whilst I note the concerns raised in relation to tourism, I am satisfied, as previously mentioned that significant effects will not occur in this regard due to the lack of any significant direct effect on archaeological monuments or cultural heritage and the lack of any significant effect on the visual amenity of such monuments and cultural heritage assets. I also note in this regard that there are no tourism attractions in close proximity to the development site.
- 8.120. Cumulative impacts have been considered within section 12.5 of the EIAR and include the existing windfarm along with other existing and permitted developments in the area. Having considered the aforementioned developments, it is stated that no identified likely or significant cumulative effects are expected in relation to archaeological, architectural, or cultural heritage resources at the proposed windfarm development or grid connection route.
- 8.121. Mitigation measures are outlined in the EIAR and include pre-construction archaeological testing and the maintenance of 30 metre buffer zone around existing recorded monuments. I consider these mitigations measures to be appropriate and acceptable to ensure that impacts do not arise in relation to archaeology, architectural and cultural heritage.

8.122. I have considered all of the written submissions made in relation to archaeology, architectural and cultural heritage and the relevant contents of the file including the EIAR. I am satisfied that the potential for impacts on archaeology, architectural and cultural heritage can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures and with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on archaeology, architectural and cultural heritage can be ruled out. I am also satisfied that cumulative effects, in the context of existing wind development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Landscape and Visual

8.123. Section 13 of the EIAR examines the potential for impacts to occur in relation to landscape and visual. It is important to note that this issue has been examined in detail within the planning assessment above. As such an assessment of these issues will not be repeated hereunder. Notwithstanding the foregoing it is important to note that the magnitude of effects in relation to landscape and visual are expected to range from moderate to imperceptible. A list of significance in terms of landscape character is provided within table 13-16 of the EIAR and viewpoints are contained within table 13-17.

8.124. Cumulative impacts have been examined under section 13.7.3.3 of the EIAR and are not expected.

8.125. I have considered all of the written submissions made in relation to landscape and visual and the relevant contents the file including the EIAR. I am satisfied that the potential for impacts on landscape and visual can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures or with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on landscape and visual can be ruled out. I am also satisfied that cumulative effects, in the context of existing wind development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Material Assets

8.126. Section 14 of the EIAR examines the likely significant effects on material assets which includes, transport infrastructure, telecommunications and aviation. In addition, having

regard to the projects setting within an active forest plantation, commercial forestry resources have also been considered as a relevant material asset.

Transport Infrastructure

- 8.127. With regard to transport infrastructure, section 14.1.2 of the EIAR outlines the details of the surrounding road network to the windfarm site which comprises many local and regional roads. The grid connection route runs through the development site to the onsite substation and will not affect any local roads and the delivery route is outlined in section 14.1.2.2 of the EIAR. A detailed assessment for abnormally sized loads was made from the point at which the route turns off the N22 to the north of Crookstown. A number of routes were considered with the preferred route described in detail in Section 14.1.8.
- 8.128. As mentioned above within the report no significant works are required to facilitate the delivery of the proposed turbines and in the event of the route changing, all details can be agreed with the Local Authority and An Garda Síochána. Such measures can be adequately dealt with by way of condition, should the Board be minded to grant permission. I note that autotrack images are included within the EIAR within Fig 14.16 to 14.30 which clearly demonstrate turning movements relating to turbine delivery.
- 8.129. It is of note that improvements at the site entrance have already been carried out on foot of the existing windfarm development present, no further works are required.
- 8.130. With regard to construction traffic, it is stated that the site preparation and ground works will give rise to 849 two-way trips and an additional 288 two-way trips on days when concrete is being poured. A total of 24 no. abnormal loads trips are expected in relation to the turbine component delivery and it is expected that c. 40 people will be employed at the site which will give rise to c. 40 two-way movements per day based on 2 people per car.
- 8.131. The overall magnitude of traffic impacts are considered to be slight and temporary in nature. It is of note that the operation of the windfarm will be done remotely and traffic associated with this phase will be minimal and relate to 2 no. permanent employees. Impacts associated with the decommissioning of the development will be similar to that outlined in relation to construction and are therefore not significant.

- 8.132. Cumulative impacts are examined in section 14.1.10.5 and are considered in the context of existing development and forestry works. No significant impacts are expected in this regard.
- 8.133. Mitigation measures relating to traffic are outlined in section 14.1.10.6 of the EIAR and refer to the notification of locals regarding abnormal size deliveries. Pre construction surveys will assist Local Authorities to identify damage caused by the proposed development and reinstatement of such damage will be agreed with LA engineers. Similar mitigation relates to the decommissioning of the site. Following mitigation, no residual affects are expected in relation to traffic and transportation.
- 8.134. Having regard to the foregoing, whilst I acknowledge the concerns raised within the third party appeals in relation to traffic related disturbance during the construction period, this is for a limited period of time and as such will not be significant.

Telecommunication and Aviation

- 8.135. With regard to aviation, Cork Airport were consulted and stated that there was no potential for interference or issues raised in relation to the proposed development. Standard conditions in relation to obstacle light system, the provision of as constructed co ordinates and notification of crane activities were required by IAA. Such measures can be adequately dealt with by way of condition, should the Board be minded to grant.
- 8.136. Impacts in relation to the telecommunications - Baseline conditions were established, and network providers were consulted to identify potential risks arising from the development. No issues in relation to interference with telecommunications were raised by any operator.
- 8.137. I have considered all of the written submissions made in relation to material assets and the relevant contents the file including the EIAR. I am satisfied that the potential for impacts on material assets can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, by the proposed mitigation measures or with suitable conditions. I am therefore satisfied that the potential for direct or indirect impacts on material assets can be ruled out. I am also satisfied that cumulative effects, in the context of existing wind development in the surrounding area and other existing and proposed development in the vicinity of the site, are not likely to arise.

Interactions of effects

- 8.138. I have considered the interrelationships between factors and whether these may as a whole affect the environment, even though the effects may be acceptable when considered on an individual basis. Section 15 of the EIA provides a matrix of the impact interactions.
- 8.139. I consider that there is potential for population and human health to interact with many of the other factors (water, air and climate, noise, landscape and visual, and material assets). The details of all other interrelationships are set out in Table 15-1 of the EIA which I have considered.
- 8.140. I am satisfied that effects as a result of interactions, indirect and cumulative effects can be avoided, managed and / or mitigated for the most part by the measures which form part of the proposed development, the proposed mitigation measures detailed in the EIA, and with suitable conditions.

Reasoned Conclusion

- 8.141. Having regard to the examination of environmental information contained above, to the EIA and supplementary information provided by the applicant and the submissions received, the contents of which I have noted, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows.
- Benefits/positive impacts on the **Air and Climate**, the proposed development will have a significant positive effect on human health and population due to the displacement of CO₂ from the atmosphere arising from fossil fuel energy production.
 - Negative impacts on **human health and population** arising from construction include noise, traffic and dust disturbance to residents of neighbouring dwellings. All of these impacts are slight to moderate. Adequate mitigation measures are proposed to ensure that these impacts are not significant and include adequate mitigation for operational noise.
 - Negative impacts on **biodiversity** including habitat loss, disturbance/displacement of species, pollution of rivers and streams draining the site and the spread of invasive plant species will be mitigated by a suite of

measures outlined in the Construction and Environmental Management Plan contained in appendix 4-4 of the EIAR.

- Negative impacts on **Water** could arise as a result of accidental spillages of chemicals, hydrocarbons or other contaminants entering the drainage system and discharging to the river thereafter during the construction and operational phases. These impacts will be mitigated by measures outlined within the application and can therefore be ruled out.
- Negative **Noise and Dust** impacts arise during the construction phase from construction activities. These impacts will be mitigated through adherence to best practice construction measures. Noise disturbance from the operation of turbines is not likely to arise given the separation distances between turbines and residential properties. Impacts arising from noise and dust disturbance during both the construction and operational stage can therefore be ruled out.
- Negative **traffic** impacts arise during the construction phase of the development, these impacts will be mitigated through the implementation of a traffic management plan and a construction management plan. Impacts arising from traffic can therefore be ruled out.

8.142. The EIAR has considered that the main significant direct and indirect effects of the proposed development on the environment would be primarily mitigated by environmental management measures, as appropriate. Thus, having regard to the foregoing assessment, I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect effects on the environment.

9.0 **Appropriate Assessment**

9.1. The NIS dated May 2021 has been prepared by MKO on behalf of the applicant. The NIS describes the proposed development, its receiving environment and relevant European Sites in the zone of influence of the development. It was informed by a desk top study, maps and ecological and water quality data from a range of sources and multi-disciplinary site surveys, including bird surveys which comprised of site visits between April to September 2014 and October to March 2021, as well as dedicated mammal, habitat and aquatic surveys.

- 9.2. The report concluded that, taking into account the project design and the implementation of mitigation measures identified in the NIS, the proposed development will not result in adverse effects on the integrity of any Natura 2000 site.
- 9.3. Having reviewed the NIS, the supporting documentation and the further information submitted, I am generally satisfied that it provides adequate information in respect of the baseline conditions, identifies the potential impacts, uses best scientific information and knowledge and provides details of mitigation measures. I am satisfied, that the information provided is generally sufficient to allow for appropriate assessment of the development.

Stage 1 Screening

- 9.4. Notwithstanding the submission of a NIS, it is prudent to review the screening process to ensure alignment with the sites brought forward for AA and to ensure that all sites that may be affected by the development have been considered.
- 9.5. Having regard to the information and submissions available, nature, size and location of the proposed development and its likely direct, indirect and cumulative effects, the source pathway receptor principle and sensitivities of the ecological receptors, I consider the following European Sites are relevant to include for the purposes of initial screening for the requirement for Stage 2 appropriate assessment on the basis of likely significant effects.

Table 1.0

European Site Name & Code	Distance	Qualifying Interest	Source-pathway-receptor	Considered further in screening
River Bandon SAC 002171	2.9km	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera	Existing tributaries in and around site.	Yes , there are a number of tributaries in relation to this site within and around the boundary of this site. There is potential for impacts to arise in relation to sedimentation and pollution.

		(Freshwater Pearl Mussel) [1029] Lampetra planeri (Brook Lamprey) [1096]		
The Gearagh SAC 000108	8.7km	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260] Rivers with muddy banks with Chenopodium rubri p.p. and Bidens p.p. vegetation [3270] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Lutra lutra (Otter) [1355]	Existing tributaries in and around site.	Yes , there are a number of streams to the north of the site which drain to the River Lee which ultimately flows to this SAC. There is potential for impacts to arise in relation to sedimentation and pollution.
St. Gobnets Wood SAC 000106	c. 13.9km	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	None	No , no pathways exist.
Great Island Channel SAC 001058	54.9km	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (Glaucopuccinellietalia maritima) [1330]	None	No , no meaningful pathway exists.
The Gearagh SPA 004109	10.2km	Wigeon (Anas penelope) [A050]	Existing tributaries in	Yes , there are a number of streams to the north of the site which drain to the

		<p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Mallard (<i>Anas platyrhynchos</i>) [A053]</p> <p>Coot (<i>Fulica atra</i>) [A125]</p> <p>Wetland and Waterbirds [A999]</p>	and around site.	River Lee which ultimately flows to this SAC. There is potential for impacts to arise in relation to sedimentation and pollution.
Mullaghanish to Musheramore Mountains SPA 004162	13.9km	Hen Harrier (<i>Circus cyaneus</i>) [A082]	None	No , no pathways exist and site is outside of foraging range for Hen Harrier.
Cork Harbour SPA 004030	47.7km	<p>Little Grebe (<i>Tachybaptus ruficollis</i>) [A004]</p> <p>Great Crested Grebe (<i>Podiceps cristatus</i>) [A005]</p> <p>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</p> <p>Grey Heron (<i>Ardea cinerea</i>) [A028]</p> <p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Wigeon (<i>Anas penelope</i>) [A050]</p> <p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Pintail (<i>Anas acuta</i>) [A054]</p> <p>Shoveler (<i>Anas clypeata</i>) [A056]</p> <p>Red-breasted Merganser (<i>Mergus serrator</i>) [A069]</p> <p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p>	Hydrological link to this SPA, however it is outside of the foraging zone for QI's	Yes , there is a hydrological link between the site and this SPA. There is potential for impacts to arise in relation to sedimentation and pollution.

		<p>Grey Plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</p> <p>Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Curlew (<i>Numenius arquata</i>) [A160]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p> <p>Common Gull (<i>Larus canus</i>) [A182]</p> <p>Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</p> <p>Common Tern (<i>Sterna hirundo</i>) [A193]</p> <p>Wetland and Waterbirds [A999]</p>		
--	--	--	--	--

Screening Determination

- 9.6. The Screening Report submitted screens out all Natura 2000 sites with the exception of the River Bandon SAC, The Gearagh SAC, The Gearagh SPA and Cork Harbour SPA on the grounds that the others mentioned are removed from the development and do not have any meaningful pathway to the proposed development.
- 9.7. I have considered the European sites as listed above and consider that the applicant's approach is reasonable. Based on my examination of the NIS report and supporting information submitted, the scale of the development, its likely effects by way of the potential to contaminate or create disturbance to qualifying interests of the River Bandon SAC, The Gearagh SAC, The Gearagh SPA and Cork Harbour SPA by way

of water pollution and sedimentation during construction, I would conclude that a Stage 2 Appropriate Assessment is required for these Natura 2000 sites. It is important to note that mitigation measures have not been considered in the Appropriate Assessment Screening.

Stage II Appropriate Assessment

9.8. The following Appropriate Assessment of the implications of the proposed works alone and in combination with other relevant plans and projects will be carried out in relation to the following European sites in view of their conservation objectives:

- Bandon River SAC
- The Gearagh SAC
- The Gearagh SPA
- Cork Harbour SPA.

9.9. The NIS submitted on behalf of the applicant concluded that the proposal will not, beyond reasonable scientific doubt, adversely affect the integrity of any Natura 2000 designated sites either directly or indirectly.

9.10. The following is a summary of the objective scientific assessment of the implications of the project on the qualifying interest features of the European site using the best scientific knowledge in the field. All aspects of the project which could result in adverse effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are considered and assessed.

9.11. Potential for direct and indirect effects

9.12. As outlined within section 5 of the NIS the potential for adverse effects relates to changes to water quality arising from pollution and sedimentation of watercourses arising at various locations and associated with various operations during the construction of the development.

9.13. With regard to the Zone of Influence relating to such impacts it is of note that pollution and sedimentation can have an indirect effect by way of degradation of habitats from the changes in water quality and can also indirectly affect SCIs of Natura 2000 sites by adversely affecting habitats on which SCIs rely.

Bandon River SAC

- 9.14. The Bandon River SAC consists of relatively short adjoining stretches of the Bandon and Caha Rivers. These rivers flow in a southerly direction to the east of Dunmanway, Co. Cork. Towards the southern end of the site the Bandon River takes an easterly course. A population of Freshwater Pearl Mussel is found in the river. This species is listed on Annex II of the E.U. Habitats Directive.
- 9.15. The river also supports populations of protected fish species, notably Brook Lamprey and Salmon (*Salmo salar*), both of which are also listed on Annex II of the E.U. Habitats Directive. Version date: 16.12.2013 3 of 3 002171_Rev13.Doc The site also supports many of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Badger, Irish Hare, Daubenton's Bat and Pipistrelle bat. The two bat species can be seen feeding along the river and roosting under the old bridges. Otter, another species listed on Annex II of the E.U. Habitats Directive, is also found within the site.
- 9.16. Potential impacts relate to a deterioration in water quality as a result of sediment laden surface water runoff and pollution from construction activities.

The Gearagh SAC

- 9.17. This site is located on the River Lee in Co. Cork, extending westwards and southwards from the Lee Bridge, which is about 1.5 km south of Macroom. It extends for about 7 km of river, to Dromcarra Bridge. The Gearagh occupies a wide, flat valley of the River Lee, on a bed of limestone overlain with sand and gravel. Despite the fact that about half the original area has been destroyed, the Gearagh still represents the only extensive alluvial woodland in Ireland or Britain, or indeed west of the Rhine in Europe. For this reason it is a unique site and has been designated also as a Statutory Nature Reserve. The international importance of the site is recognised by its designation both as a Ramsar site and as a Biogenetic Reserve. The reservoir is also a Wildfowl Sanctuary.
- 9.18. Potential impacts relate to a deterioration in water quality as a result of sediment laden surface water runoff and pollution from construction activities.

The Gearagh SPA

- 9.19. The Gearagh, located approximately 2 km south-west of Macroom, Co. Cork, comprises a stretch of the River Lee that was dammed in the 1950s as part of a

hydroelectric scheme. The river valley formerly held an extensive area of alluvial forest but only part of the forest now survives. The SPA extends from Annahala bridge westwards to Toon bridge. The principal habitat is a shallow lake or reservoir which is fringed by wet woodland, scrub and grassland that is prone to flooding. Alluvial forest occurs on islands.

9.20. At the time this site was designated as a Special Protection Area (SPA) it was utilised by nationally important populations of four species, i.e. Wigeon, Teal, Mallard and Coot, and each of these species is regarded as a special conservation interest for this SPA.

9.21. Potential impacts relate to a deterioration in water quality as a result of sediment laden surface water runoff and pollution from construction activities.

Cork Harbour SAC

9.22. Cork Harbour is a large, sheltered bay system, with several river estuaries - principally those of the Rivers Lee, Douglas, Owenboy and Owennacurra. The SPA site comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay, Ringabella Creek and the Rostellan and Poul nabibe inlets.

9.23. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Wigeon, Teal, Mallard, Pintail, Shoveler, Redbreasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Greenshank, Blackheaded Gull, Common Gull, Lesser Black-backed Gull and Common Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds.

9.24. Potential impacts relate to a deterioration in water quality as a result of sediment laden surface water runoff and pollution from construction activities.

Potential in-combination effects

9.25. In combination effects are examined within section 7 of the NIS submitted. The proposed works were considered in combination with impacts arising from forestry,

habitat alteration and fragmentation, peat harvesting and other development and windfarms in the area within a 20km radius.

- 9.26. In-combination effects have also been considered in the context of the development plan and other plans affecting the area and the potential for rural development to impact water quality within rivers.
- 9.27. The NIS submitted for the proposed project concludes, having considered the aforementioned activities and development that subject to mitigation measures relating to the protection of water quality, no significant in-combination effects are identified with the proposed development.

Mitigation

- 9.28. Mitigation measures have been set out within Section 5.2.1.2 and subsequent sections of the NIS submitted and are extensive in number, it is important to note that not all mitigation proposed will be listed hereunder, however I have examined all mitigation proposed and considered such measures in relation to the potential impacts arising from the proposed development.
- 9.29. With regard to surface water effects, I note that a surface water run-off drainage system will be constructed at each of the turbine locations and along the new sections of road, to separate and collect 'dirty water' run-off from the turbines and road and to intercept clean over land surface water flows from crossing internal roadways. Drains carrying construction site runoff will be diverted into settlement ponds that reduce flow velocities, allowing silt to settle, thereby reducing the sediment loading.
- 9.30. Settlement ponds will require regular inspection and cleaning when necessary. Where necessary, check dams, sandbags, silt fences will be installed in adjacent drainage roadside drainage ditches to ensure optimum standard of water running into adjacent streams from the roadside drainage. During periods of heavy precipitation and run-off, works will be halted or working surfaces/pads will be provided to minimise soil disturbance. Surface water will be inspected daily. It is of note that there is extensive drainage within the existing site along existing tracks associated with the existing wind farm, it is proposed to improve and extend such drainage where required.
- 9.31. Mitigation measures in relation to excavated material include the prevention of stockpiling of materials and the reuse of materials within the site. Excess/unsuitable

material will be removed from site. Appropriate siltation measures will be put in place prior to excavations. Stockpiles will be temporarily stored a minimum of 50m back from rivers/streams on level ground with a silt barrier installed at the base.

- 9.32. With regard to dewatering, ground water/surface water will not be pumped directly into roadside drains/watercourses, such water which has become silted within the turbine foundations will be pumped to the surface water drainage system. Where this is not feasible, temporary storage will be provided within the excavations and dewatering carried out at a flow rate that is within the capacity of the settlement ponds.
- 9.33. A suitably qualified and experienced ECoW will be employed during the construction phase of the project. Duties will include the review of all method statements, delivery of toolbox talks and monitoring of construction phase to ensure all environmental controls and mitigation is implemented in full.
- 9.34. Prior to being brought onto the site, all plant and equipment will be cleaned and free of soil/mud/debris or any attached plant or animal material.
- 9.35. With regard to concrete, washout of concrete trucks will occur off-site at a designated, contained impermeable area. No disposal of concrete remnants will be permitted on site.
- 9.36. Mitigation in relation to temporary construction compounds and refuelling includes the diversion of surface water to an oil interceptor to prevent pollution, the use of a bunded containment area within the compound for the storage of fuels, lubricants, oils etc, the use of double bunded mobile bowers, plant nappies or absorbent mats, long term storage of wastes and oils will not be permitted on site.
- 9.37. All mitigation measures will be examined in relation to the potential for likely significant effects on the aforementioned Natura 2000 sites within the following integrity test.
- 9.38. **The integrity Test**
- 9.39. I have considered the NIS along with the information submitted with the application and have had regard to the mitigation measures outlined. Potential for impacts to arise in relation to the leakage of oils and diesels or other such contaminants from construction vehicles has been dealt with within the mitigation measures outlined in 5.2.1.4.1 . All machinery will be checked prior to entering the works area and all fuel,

lubricants and hydraulic fluids will be kept in a secure bunded area removed from watercourses with a buffer of 50m from streams.

- 9.40. With regard to the mobilisation of sediments I note that stream crossings will be using clear span pre-cast concrete culvert crossings such as a bottomless arch or bottomless box culvert. The design of a clear span pre-cast concrete culvert crossing will ensure that the existing streams are maintained during the construction phase, which will avoid the need for in-stream works. This design will ensure that the existing channel profile within each watercourse is maintained and gradients within the watercourse are not altered. The existing hydrological regime of each watercourse will be maintained.
- 9.41. All qualifying interests outlined within table 1 are sensitive to the build up of sediments, measure proposed to prevent the mobilisation of sediments, as outlined above during both the construction, operational and decommissioning phases of the development which include the provision of a 50 metre buffer to all watercourses will prevent such impacts from arising.
- 9.42. These mitigation measures are standard in nature and are known to be effective. I am therefore satisfied that the mitigation measures outlined in relation to hydrocarbon contamination of soils and waters and sedimentation are acceptable and will prevent impacts from such sources to the designated site listed above. It is important to note that the development site does not contain an ex-situ bird species from the listed SPAs and as such will not give rise to impacts in relation to these species.
- 9.43. On the basis of the information provided with the application, including the Natura Impact Statement, and in light of the assessment carried out, I am satisfied that the proposed development individually, or in combination with other plans or projects would not be likely to have a significant effect on European site No. 002171, 000108, 004109 and 004030 in view of these sites Conservation Objectives.

Table 2 AA summary matrix – River Bandon SAC

River Bandon SAC: (002171)

Summary of likely significant effects

- **Habitat Loss due to water quality impacts**

Conservation Objectives: To maintain or restore the favourable conservation status of habitats and species of community interest

Qualifying Interest feature	Conservation Objectives	Summary of Appropriate Assessment			Can adverse effects on integrity be excluded?
		Potential adverse effects	Mitigation measures	In-combination effects	
<p>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</p> <p>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</p> <p>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</p> <p>Lampetra planeri (Brook Lamprey) [1096]</p>	To maintain favourable conditions.	Habitat loss, displacement.	Surface water management plan, installation of construction buffers and pollution and sediment control measures	Additional development in area including grid connection	Yes
<p>Overall conclusion: Integrity test</p> <p>Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of this European site.</p>					

Table 3 AA summary matrix – The Gearagh SAC

The Gearagh SAC: (000108)					
Summary of likely significant effects					
<ul style="list-style-type: none"> Habitat Loss due to water quality impacts <p>Conservation Objectives: To maintain or restore the favourable conservation status of habitats and species of community interest</p>					
Qualifying Interest feature	Conservation Objectives	Summary of Appropriate Assessment			Can adverse effects on
		Potential adverse effects	Mitigation measures	In-combination effects	

					integrity be excluded?
<p>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</p> <p>Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation [3270]</p> <p>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</p> <p>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</p> <p>Lutra lutra (Otter) [1355]</p>	To maintain favourable conditions.	Habitat loss, displacement.	Surface water management plan, installation of construction buffers and pollution and sediment control measures	Additional development in area including grid connection	Yes
<p>Overall conclusion: Integrity test</p> <p>Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of this European site.</p>					

Table 4 AA summary matrix – The Gearagh SPA

<p>The Gearagh SPA: (004109)</p> <p>Summary of likely significant effects</p> <ul style="list-style-type: none"> Habitat Loss due to water quality impacts <p>Conservation Objectives: To maintain or restore the favourable conservation status of habitats and species of community interest</p>			
		Summary of Appropriate Assessment	

Qualifying Interest feature	Conservation Objectives	Potential adverse effects	Mitigation measures	In-combination effects	Can adverse effects on integrity be excluded?
Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Mallard (<i>Anas platyrhynchos</i>) [A053] Coot (<i>Fulica atra</i>) [A125] Wetland and Waterbirds [A999]	To maintain favourable conditions.	Habitat loss, displacement.	Surface water management plan, installation of construction buffers and pollution and sediment control measures	Additional development in area including grid connection	Yes
Overall conclusion: Integrity test					
Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of this European site.					

Table 5 AA summary matrix – Cork Harbour SPA

Cork Harbour SPA: (004030)					
Summary of likely significant effects					
<ul style="list-style-type: none"> Habitat Loss due to water quality impacts 					
Conservation Objectives: To maintain or restore the favourable conservation status of habitats and species of community interest					
			Summary of Appropriate Assessment		
Qualifying Interest feature	Conservation Objectives	Potential adverse effects	Mitigation measures	In-combination effects	Can adverse effects on integrity be excluded?
Little Grebe (<i>Tachybaptus ruficollis</i>) [A004] Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Cormorant (<i>Phalacrocorax carbo</i>) [A017]	To maintain favourable conditions.	Habitat loss, displacement.	Surface water management plan, installation of construction buffers and pollution and sediment control measures	Additional development in area including grid connection	Yes

<p>Grey Heron (<i>Ardea cinerea</i>) [A028]</p> <p>Shelduck (<i>Tadorna tadorna</i>) [A048]</p> <p>Wigeon (<i>Anas penelope</i>) [A050]</p> <p>Teal (<i>Anas crecca</i>) [A052]</p> <p>Pintail (<i>Anas acuta</i>) [A054]</p> <p>Shoveler (<i>Anas clypeata</i>) [A056]</p> <p>Red-breasted Merganser (<i>Mergus serrator</i>) [A069]</p> <p>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) [A140]</p> <p>Grey Plover (<i>Pluvialis squatarola</i>) [A141]</p> <p>Lapwing (<i>Vanellus vanellus</i>) [A142]</p> <p>Dunlin (<i>Calidris alpina</i>) [A149]</p> <p>Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</p> <p>Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</p> <p>Curlew (<i>Numenius arquata</i>) [A160]</p> <p>Redshank (<i>Tringa totanus</i>) [A162]</p> <p>Black-headed Gull</p>					
--	--	--	--	--	--

(Chroicocephalus ridibundus) [A179]					
Common Gull (Larus canus) [A182]					
Lesser Black-backed Gull (Larus fuscus) [A183]					
Common Tern (Sterna hirundo) [A193]					
Wetland and Waterbirds [A999]					
Overall conclusion: Integrity test					
Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of this European site.					

10.0 Conclusion

- 10.1. In overall conclusion, having regard to the foregoing assessment, I consider, based on the information submitted, that the proposed development, in terms of the principle of development, the likelihood of significant environmental effects and the likelihood of significant adverse effects with regard to European designated sites is acceptable subject to conditions set out hereunder. As is outlined above, the potential for adverse impacts has been adequately mitigated for and no significant residual impacts remain.
- 10.2. The provision of a secure and reliable energy supply within Ireland is essential to the country's economic growth and the prosperity of the population and this is supported in policy at a European, national, regional and local level within the Cork County Development Plan. The proposed development is an essential infrastructure project located in an area identified as a Strategic Area for wind, which will assist in Ireland's move to a low carbon economy and is in accordance with the sustainable development of the country.

11.0 Recommendation

- 11.1. I recommend that permission is granted subject to the following conditions:

12.0 Reasons and Considerations

In coming to its decision, the Board had regard to the following:

European legislation, including of particular relevance:

- Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directives) which set the requirements for Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.
- EU Renewable Energy Directive 2009/28/EC which aims to promote the use of renewable energy

National and regional planning and related policy, including:

- National policy including the Climate Action Plan 2021, with regard to the development of alternative and indigenous energy sources and the minimisation of emissions from greenhouse gases,
- Project Ireland 2040 – National Planning Framework
- the provisions of the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June, 2006, and the draft Wind Energy Guidelines published by the Department of Housing Local Government and Heritage in December 2019.

Regional and local level policy, including the:

- Regional Spatial Economic Strategy for the Southern Region 2020

The local planning policy including:

- Cork Development Plan
- other relevant guidance documents
- the nature, scale and design of the proposed development as set out in the planning application and the pattern of development in the vicinity,
- the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the

proposed development and the likely significant effects of the proposed development on European Sites,

- The documentation submitted with the planning application, including the Natura Impact Statement and the Environmental Impact Assessment Report and the further information furnished to the Board,
- the submissions on file and appeals made to An Bord Pleanála in connection with regard to the planning application, and
- the report and recommendation of the Inspector, including the examination, analysis and evaluation undertaken in relation to appropriate assessment and environmental impact assessment.

12.1. **Proper Planning and Sustainable Development**

12.2. It is considered that the proposed development would accord with European, national, regional and local planning and that it is acceptable in respect of its likely effects on the environment and its likely consequences for the proper planning and sustainable development of the area.

Appropriate Assessment Stage 2:

The Board considered the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment of the implications of the proposal for the River Bandon SAC, The Gearagh SAC, The Gearagh SPA and Cork Harbour SPA , in view of these sites Conservation Objectives. The Board considered that the information before it was sufficient to undertake a complete assessment of all aspects of the proposed development in relation to the sites conservation objectives using the best scientific knowledge in the field.

In completing the assessment, the Board considered, in particular, the

- i. Site specific Conservation Objective for these Sites
- ii. Current conservation status, threats and pressures of the qualifying interest features,
- iii. Likely direct and indirect impacts arising from the proposal both individually or in combination with other plans or projects,
- iv. Mitigation measures which are included as part of the current proposal,
- v. Views of prescribed bodies in this regard.

In completing the appropriate assessment, the Board accepted and adopted the appropriate assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the integrity of the aforementioned European Sites, having regard to the sites conservation objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Site, in view of the site's conservation objectives and there is no reasonable scientific doubt as to the presence of such effects.

Environmental Impact Assessment

In compliance with section 172 of the Planning and Development Act 2000, as amended, the Board completed an environmental impact assessment of the proposed development taking into account:

- a. The nature, scale location and extent of the proposed development,
- b. The Environmental Impact Assessment Report and associated documentation submitted in support of the application,
- c. The submissions from the applicant and the planning authority, and
- d. The inspectors report.

The Board considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, provided information which is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account current knowledge and methods of assessment. The Board is satisfied that the information contained in the Environmental Impact Assessment Report is up to date and complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU. The Board agreed with the examination, set out in the inspector's report, of the information contained in the Environmental Impact Assessment Report and associated documentation submitted by the applicant and submissions made in the course of the planning application.

Reasoned conclusions on the significant effects:

The Board considered that the main significant direct and indirect effects of the proposed development on the environment are those arising from the impacts listed below.

The main significant effects, both positive and negative, are:

- Benefits/positive impacts on the **Air and Climate**, the proposed development will have a significant positive effect on human health and population due to the displacement of CO₂ from the atmosphere arising from fossil fuel energy production.
- Negative impacts on **human health and population** arising from construction include noise, traffic and dust disturbance to residents of neighbouring dwellings. All of these impacts are low to moderate. Adequate mitigation measures are proposed to ensure that these impacts are not significant and include adequate mitigation for operational noise.
- Negative impacts on **Water** could arise as a result of accidental spillages of chemicals, hydrocarbons or other contaminants entering the drainage system and discharging to the river thereafter during the construction and operational phases. These impacts will be mitigated by measures outlined within the application and can therefore be ruled out.
- Negative impacts on **biodiversity** including habitat loss, disturbance/displacement of species, pollution of rivers and streams draining the site and the spread of invasive plant species will be mitigated by a suite of measures outlined in the Construction and Environmental Management Plan contained in appendix 4-4 of the EIAR.
- Negative **Noise and Dust** impacts arise during the construction phase from construction activities. These impacts will be mitigated through adherence to best practice construction measures. Noise disturbance from the operation of turbines is not likely to arise given the separation distances between turbines and residential properties. Impacts arising from noise and dust disturbance during both the construction and operational stage can therefore be ruled out.
- Negative **traffic** impacts arise during the construction phase of the development, these impacts will be mitigated through the implementation of a traffic management plan and a construction management plan. Impacts arising from traffic can therefore be ruled out.

The Board completed an Environmental impact assessment in relation to the proposed development and concluded that, subject to the implementation of the

mitigation measures proposed as set out in the Environmental Impact Assessment Report, and subject to compliance with the conditions set out below the effects of the proposed development on the environment by itself and in combination with other plans and projects in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the inspector.

13.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of clarity.

2. The period during which the development hereby permitted is constructed shall be 10 years from the date of this order.

Reason: In the interests of clarity.

3. This permission shall be for a period of 25 years from the date of the first commissioning of the wind farm.

Reason: To enable the planning authority to review its operation in the light of the circumstances then prevailing.

4. The developer shall ensure that all construction methods and environmental mitigation measures set out in the Environmental Impact Assessment Report and associated documentation are implemented in full, save as may be required by conditions set out below.

Reason: In the interest of protection of the environment.

5. The overall tip height of the turbine shall be no less than 175 metre and shall not exceed 176.5 metres in height.

Reason: In the interest of clarity

6. (a) All mitigation, environmental commitments and monitoring measures identified in the Environmental Impact Assessment Report shall be implemented in full as part of the proposed development.

(b) All mitigation and environmental commitments identified in the Natura Impact Statement shall be implemented in full as part of the proposed development.

Reason: In the interest of development control, public information and clarity.

7. The developer shall retain the services of a suitably qualified and experienced bat specialist to undertake bat surveys on regular intervals within the relevant period for this site for a minimum period of 3 years. Details of the surveys to be undertaken and associated reporting requirements shall be developed following consultation with, and agreed in writing with, the planning authority prior to commencement of development. These reports shall be submitted on an agreed date annually for three years, with the prior written agreement of the planning authority. Copies of the reports shall be sent to the Department of Housing, Local Government and Heritage. In the event that significant barotrauma levels recorded the effected turbines shall be ceased from operation until adequate mitigation measures are agreed with the Local Authority and fully implemented.

Reason: To ensure appropriate monitoring of the impact of the development on the bats of the area.

8. The developer shall retain the services of a suitably qualified and experience bird specialist to undertake appropriate annual bird surveys of this site. Details of the surveys to be undertake and associated reporting requirements shall be developed following consultation with, and agreed in writing with, the planning authority prior to commencement of development. These reports shall be submitted on an agreed date annually for five years, with the prior written agreement of the planning authority. Copies of the reports shall be sent to the Department of Housing, Local Government and Heritage.

Reason: To ensure appropriate monitoring of the impact of the development on the avifauna of the area.

9. The construction of the development shall be managed in accordance with a Construction Environment Management Plan, which shall be submitted to, and agreed in writing with the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including hours of working, noise management measures and off-site disposal of construction/demolition waste.

Reason: In the interests of public safety and residential amenity.

10. In the event that invasive plant species are found prior to or during works at the appeal site, the applicant shall submit an Invasive Management Species Action Plan for the written approval of the planning authority which shall include full details of the eradication of the such invasive species from the appeal site prior to construction on the site or if discovered during construction as soon as is practicably possible.

Reason: In the interest of nature conservation and mitigating ecological damage associated with the development.

11. Trees to be felled and buildings to be demolished shall be examined prior to felling and demolition to determine the presence of bat roosts. Any works shall be in accordance with the TII Guidelines for the Treatment of Bats during the construction of National Road Schemes.

Reason: In the interest of wildlife protection.

12. (a) No additional artificial lighting shall be installed or operated on site unless authorised by a prior grant of planning permission.

b) CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the road. Their location within the compound shall be agreed with the Planning Authority prior to commencement of work on site.

(c) All lighting shall be operated in such a manner as to prevent light overspill to areas outside of the compound.

(d) Prior to the commencement of development the applicant shall submit a detailed lighting plan for the written agreement of the planning authority. The plan shall include the type, duration, colour of light and direction of all external lighting to be installed within the external areas of the development site.

Reason: In the interests of clarity, and of visual and residential amenity and protection of local biodiversity.

13. The developer shall comply with the following aviation requirements:

Notify the Irish Aviation Authority of their intention to commence crane activities with a minimum of 30 days prior notification of their erection.

Consult with the Irish Aviation Authority and the Dublin Airport Authority and develop mitigation measures for bird hazards. Details to be submitted to the planning authority for written agreement.

Reason: In the interest of orderly development.

14. The operation of the proposed development, by itself or in combination with any other permitted wind energy development, shall not result in noise levels, when measured externally at nearby noise sensitive locations, which exceed:

(a) Between the hours of 7am and 11pm:

- i. the greater of 5 dB(A) $L_{90,10min}$ above background noise levels, or 45 dB(A) $L_{90,10min}$, at standardised 10m height above ground level wind speeds of 7m/s or greater
- ii. 40 dB(A) $L_{90,10min}$ at all other standardised 10m height above ground level wind speeds

(b) 43 dB(A) $L_{90,10min}$ at all other times.

Prior to commencement of development, the developer shall submit to and agree in writing with the planning authority a noise compliance monitoring programme for the subject development, including any mitigation measures such as the de-rating of particular turbines. All noise measurements shall be carried out in accordance with

ISO Recommendation R 1996 “Assessment of Noise with Respect to Community Response,” as amended by ISO Recommendations R 1996-1. The results of the initial noise compliance monitoring shall be submitted to, and agreed in writing with, the planning authority within six months of commissioning of the wind farm.

Reason: In the interest of residential amenity.

15. Prior to commencement of development, the developer shall submit to and agree in writing with the planning authority a Shadow flicker compliance monitoring programme for the subject development, including any mitigation measures such as the use of appropriate equipment and software to suitably control shadow flicker at nearby dwellings, including control of turbine rotation, in accordance with details which shall be submitted to, and agreed in writing with, the planning authority. Shadow flicker arising from the proposed development, by itself or in combination with other existing or permitted wind energy development in the vicinity, shall not exceed 30 hours per year or 30 minutes per day at existing or permitted dwellings or other sensitive receptors.

Reason: In the interest of residential amenity.

16. Prior to the commencement of development, the applicant shall submit to and agree in writing with the planning authority, details of an obstacle warning light scheme which can be visible to night vision equipment.

Reason: in the interest of aviation safety.

17. Water supply, wastewater treatment and surface water attenuation and disposal shall comply with the requirements of the planning authority for such works and services.

Reason: In the interest of public health

18. The following design requirements shall be complied with:

(a) The wind turbines including masts and blades, and the wind monitoring mast, shall be finished externally in a light grey colour.

(b) Cables within the site shall be laid underground.

(c) The wind turbines shall be geared to ensure that the blades rotate in the same direction.

(d) No advertising material shall be placed on or otherwise be affixed to any structure on the site without a prior grant of planning permission.

Reason: In the interest of visual amenity.

19. The delivery of large-scale turbine components for the construction of the windfarm shall be managed in accordance with a Traffic Management Plan, which shall be submitted to, and agreed in writing with the planning authority prior to commencement of development. This plan shall provide details of the road network to be used by construction traffic, including over-sized loads, and detailed arrangements for the protection of bridges, culverts or other structures to be traversed, as may be required. The plan should also contain details of how the developer intends to engage with and notify the local community in advance of the delivery of oversized loads.

Reason: In the interests of public safety and residential amenity.

20. On full or partial decommissioning of the turbines or if the turbines cease operation for a period of more than one year, the mast and the turbine concerned shall be removed and all decommissioned structures shall be removed, and foundations covered with soil to facilitate re-vegetation, within three months of decommissioning.

Reason: To ensure satisfactory reinstatement of the site upon cessation of the project.

21. In the event that the proposed development causes interference with telecommunications signals, effective measures shall be introduced to minimise interference with telecommunications signals in the area. Details of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with, the planning authority prior to commissioning of the turbines and following consultation with the relevant authorities.

Reason: In the interest of protecting telecommunications signals and of residential amenity.

22. The developer shall ensure that all plant and machinery used during the works should be thoroughly cleaned and washed before delivery to the site to prevent the spread of hazardous invasive species and pathogens.

Reason: In the interest of the proper planning and sustainable development of the area.

23. All new surface water outfalls shall be constructed in a manner which protects riparian habitat and does not result in excessive erosion of such habitat.

Reason: In the interest of habitat protection.

24. The developer shall retain the services of a suitably qualified and experienced Ecologist to undertake pre-construction surveys at the various project elements, including any river crossings, immediately prior to commencing work in order to check for the presence of protected species and bird species in the vicinity.

Reason: In the interest of protecting ecology and wildlife in the area.

25. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall –

(a) Notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development,

(b) Employ a suitably-qualified archaeologist who shall monitor all site investigations and other excavation works, and

(c) Provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

26. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: In the interest of traffic safety and the proper planning and sustainable development of the area.

27. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the satisfactory reinstatement of the site upon cessation of the project, coupled with an agreement empowering the planning authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: In the interest of orderly development and visual amenity and to ensure satisfactory reinstatement of the site.

28. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme

made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to this permission

Sarah Lynch

Senior Planning Inspector

25th October 2022