Inspector's Report

ABP-308210-20 & ABP-308208

Development	Construction of 6 wind turbines and all associated works. This application is seeking a 10 year planning permission. Construction of electricity substation compound, to replace substation already granted permission under PL04.219620 (05/5907) and extended under 11/6605. Electricity substation layout includes 3 no. control buildings, associated electrical plant and equipment, security fencing and ancillary works. A 10 year permission is sought.
Location	Lackareagh and Garranereagh, Lissarda and Barnadivane (Kneeves) Teerelton, Co. Cork
Planning Authority	Cork County Council
Planning Authority Reg. Ref.	146760 & 14557
Applicants	Barna Wind Energy (BWE) Ltd. & Arran Windfarm Ltd.

Type of Application	Permission
Planning Authority Decision	Grant
Type of Appeal	Third Party
Appellants	308210: Jerome Cohalan and Geraldine Hanley. Barna Wind Action Group. 308208: Stephanie Larkin and Others
Observers	Patrick O'Halloran and Eilish Delaney Michael P. & Mary O'Riordan Michael Allen Anthony Cohu Nigel Fennell Teresa Flynn Patrick Manning Eleanor O'Leary Sarah Hodkinson and Others Stephanie Larkin
Date of Site Inspection	4th June 2025
Inspector	Rachel Gleave O'Connor

Contents

1.0 Introduction

1.1. This is a report relating to 2no. appeal case files, which having been previously considered by ABP for determination on two occasions, had their decisions quashed and subsequently remitted to ABP by order of the High Court in 2017 and 2020.

1.2. Ref.245824 related to a 6-turbine windfarm and Ref.244439 related to a proposed substation, which following a grant of permission by Cork County Council in 2015 were appealed to ABP. The decision of ABP to grant permission was subsequently quashed by the High Court, and the cases reactivated in 2017. Ref. 248153 related to the windfarm, and Ref.248152 related to the associated substation. The Boards decisions to grant permission on appeal under those references were also quashed by the High Court in 2020. Both cases were remitted to ABP and new case numbers assigned, Ref.308210 for the windfarm and Ref.308208 for the substation, which are the case files now subject to this report.

1.3. On 24th September 2020 the Board issued a Direction inviting all parties to the appeals (Ref.308210 & 308208) for comments on the High Court judgement. On 11th December 2020, the Board issued a Direction requesting the Inspector to take account of the outcome of the judgement, outline additional material in submissions and to consider whether a request for further information was warranted. Following the Inspectors report to the Board, a further Direction was issued dated 12th February 2021, requesting further information from the applicant under Section 132 of the Planning and Development Act 2000 (as amended). The detail of this request is set out in section 6 of this report below. The further information was received on 10th March 2023.

1.4. On 8th January 2024 the Board issued a Direction that the further information be circulated to all parties, along with new public notices, and that an addendum report be provided to the Board by the Inspectorate to address the same, and which forms the basis of this current report to the Board. This current report sets out an assessment in light of the original grounds of appeal and all submissions received, including further information and related observations.

2.0 Site Location and Description

2.1. The site is located in a rural agricultural area 9km from Macroom town in central county Cork. The nearest settlements to the site are the small villages of Cappeen, which is 2km to the southwest, Terelton which is 2km to the northwest and also Crookstown, which is situated close to the N72 Macroom to Killarney Road.

2.2. The site is made up of agricultural fields in a rolling landscape with intermittent one-off housing. Field boundaries are lined with hedgerows and trees, roads through the immediate surrounds comprise single lane tracks, connecting into local roads. The R585 is situated to the south.

2.3. An existing wind farm is located to the east of the site at Garranereagh and other wind turbines are also visible in the wider area.

3.0 Proposed Development

3.1. The proposed development comprises a wind farm and substation, which while submitted under two applications / appeals, is generally referred to in this report as the 'proposed development'. A detailed description of the development is contained in the submitted EIAR for the appeals, and this is summarised below:

- Erection of 6 no. wind turbines with a blade tip height of 131m, a hub height of 72.5m and a rotor diameter range of 117m;
- Construction of turbine foundations and crane pad hardstanding areas;
- Construction of approximately 2,346m of new site tracks and associated drainage infrastructure;
- Upgrading of approximately 1,381m of existing tracks and associated drainage infrastructure where necessary;
- Construction of new access junction and improvement to the public road;
- All associated drainage and sediment control;
- Construction of 1 no. permanent onsite 110kV electrical substation (which while submitted under a separate planning appeal, is under consideration

concurrently by An Bord Pleanála, reference ABP-308208-20) to ESBN specifications including:

  - 3 no. single storey Control Buildings; A & B with an approx. floor area of 195sqm and a max height of approx. 6.2m above finished ground; C with an approx. floor area of 223sqm and a max height of approx. 6.5m above finished ground level;
  - Welfare facilities;
  - An access track approx. 200m in length;
  - 2 no. steel lattice mast structures located directly underneath the existing overhead 110kV line, with max height of approx. 18m;
  - Electrical infrastructure;
  - Parking;
  - Water and Wastewater holding tank;
  - Security fencing and cameras;
  - External lighting;
  - All associated infrastructure, services and site works; and
  - Installation of a grid connection point from the Proposed Substation to the existing 110kV Macroom to Dunmanway overhead line, the substation will be situated beneath this line.

- Consented temporary accommodation works associated with the Turbine Delivery Route to facilitate the delivery of turbine components (CCC PL Ref. 14/6803);
- 1 no. Temporary construction site compound and associated ancillary infrastructure including parking;
- Installation of underground medium voltage (20/33kV) and communication cabling between the proposed turbines and the proposed on-site substation and associated ancillary works;
- Erection of 1 no. permanent meteorological mast with a height of 90m above ground level and associated access track;

- Installation of a consented medium voltage (up to 38kV) underground cabling and associated ancillary works between the Carrigarierk and Proposed Barnadivane Wind Farms. The grid connection cable works are consented in accordance with CCC Ref. 15/730 and An Bord Pleanála Ref. 04.246353; 1 no. borrow pit;
- All associated site development works;
- A 10 year planning permission and 25 year operational life from the date of commissioning of the entire wind farm is sought.

4.0 Planning Authority Decision

4.1. Decision

4.1.1. The Local Planning Authority issued a request for further information regarding greater detail in maps, photomontages, clarification of megawatt output, opinion on project splitting, wind take and potential impact on existing turbines, and ecology. A response was received on 26th May 2015, and additional unsolicited submission outlining supporting documentation received on 20th July 2015. A request for clarification was issued and a response received by the Local Planning Authority on 10th September 2015. Further information with respect to the appeal is set out in section 6 of this report.

4.1.2. On 3rd November 2015 Cork County Council issued a notification of intention to grant conditional permission for the development subject to 32 no. conditions. The decision was granted in accordance with the plans and particulars submitted as part of the original application, additional information received, and subsequent to responses to requests for further information / clarification. Condition no.23 concerns noise levels and condition no.30 concerns shadow flicker.

4.2. Planning Authority Reports

4.2.1. Planning Reports

- The first planner report dated 19th February 2015 assesses the application against the Cork County Development Plan 2014. Under that Development

Plan, the subject site location is deemed as 'acceptable in principle' for commercial and wind energy development. The report concluded that in light of the previously permitted wind farm development on the site, and the visual assessment carried out, the proposed development can be further considered from a visual viewpoint. Concerns are highlighted in the assessment regarding the need for further information concerning visual assessment, noise and ecology. Comments from the Heritage Unit and Environment Section are noted and can be addressed by further information. Further information is recommended for a total of 36 items, concerning detail with respect to the following matters: general map details, zone of theoretical visibility, photomontages, turbine infrastructure and dimensions, grid connection, wind take, ecology, noise and vibration, and transport/traffic.

- Following receipt of the applicant's further information response on 26th May 2015, the second planner's report dated 28th July 2015 outlines an assessment of the further information received. This concluded that information submitted concerning environmental, hydrological, hydrogeological, water quality and heritage are considered to be acceptable. Clarification is requested regarding noise.
- The third planner's report dated 3rd November 2011 is in response to clarification received from the applicant dated 10th September 2015 as well as with reference to further information received on 26th May and additional unsolicited further information received on 20th July 2015. This report concluded that following the further information / clarification and additional information received, the proposed development would be in accordance with the proper planning and sustainable development of the area. It was recommended that permission be granted subject to 32 no. conditions. This recommendation was agreed with by the Senior Planner as noted in comments on the Local Authority report.

4.2.2. Other Technical Reports of Note

- Area Engineer – There is a requirement for a bond for road repairs. The further information response in relation to deliveries is acceptable. Other conditions recommended.

- Engineering report – Satisfied that the response to the further information request is acceptable and that potential for significant negative impacts can be ruled out. Subject to agreement of a CEMP permission can be granted.
- Environment – The final report refers to the clarification of further information relating to noise, which is acceptable. No objection to permission subject to conditions.
- Heritage Officer- The initial report notes that the site is of low ecological significance and does not have any habitats or host species of interest. No significant impacts on birds are deemed likely. Further information reviewed. Potential for significant effects on Natura sites can be screened out. No objection subject to implementation of CEMP.

4.3. Prescribed Bodies

4.3.1. Department of Arts, Heritage and the Gaeltacht sets out requirements regarding the archaeological monitoring to be addressed by condition.

4.3.2. Inland Fisheries Ireland set out a number of planning conditions/requirements to be adhered to. These are of a general nature and relate to prior consultation in the event of physical interference with water courses, control of suspended solids and hydrocarbons contaminated site run-off and criteria in relation to bridging or culverting of watercourses, timing of such works and consultation with IFI.

4.3.3. HSE in their initial report, query the conclusions of the EIS in relation to noise particularly in relation to H-28 which has a level of exceedance that is similar to H-36, H-34 and H-48 and is not a stake holder in the project. Notes that the guidelines do not say that noise will not be a problem at 500m. Need to acknowledge impact and need for mitigation measures due to noise at non stakeholder dwellings. Also vibration impacts arising from the extraction at the borrow pit and the possibility of blasting and shadow flicker including the need to be proactive in relation to the 8 no. property owners affected. In the subsequent report it is noted that the further information requested did not address issues relating to potential shadow flicker – a mitigation strategy is required.

4.3.4. Irish Water has indicated no objection.

4.4. **Third Party Observations**

4.4.1. A large number of third party objections were received to the application. Matters raised reflect similar issues set out in the grounds of appeal as summarised in section 8 below. Observers for the appeal are summarised in section 8.4 below and are considered as part of the assessment in section 9 of this report.

5.0 Planning History

5.1. <u>On site or in vicinity Windfarm</u>

5.2. Barnadivane, Terelton, Co. Cork.

5.3. PL04.219620 Permission GRANTED by An Bord Pleanála on Appeal (February 2007), for a proposed development of 14 turbines (105m blade tip height), 110kV substation and a substation for which permission was granted. Subject development is fully described as construction of 18 turbines (modified to 14 turbines), 18 transformers, 110kV substation, 110kV switch station, 70 m wind monitoring mast, construction and upgrading of the site entrances, site tracks and associated works. The Direction of the Board referring to its decision not to accept the Inspector's recommendation to refuse permission noted the planning history of the site and the location of the proposed development within a 'strategic search area'. The Board considered that the scheme by virtue of its revised scale and turbine configuration had addressed to a significant degree concerns in relation to the previous windfarm proposal.

5.4. Windfarm – extension of duration Planning reg. ref. 11/6605 refers to an extension of duration of the above permission for 14 turbines was granted (until 13th February 2017).

5.5. Delivery Road - Under reg. ref. 14/06803 the planning authority granted permission on 27th July 2015 for a private road of c150m (between the R585 and L6008). The road was to facilitate delivery of components for the windfarm on the current appeal site.

5.6. PL04. 204928 Permission REFUSED by An Bord Pleanála (March 2004) relating to a windfarm of 23 turbines up to 100m high on the site as the development would be visually obtrusive and injure the amenities of the area and property in the vicinity.

5.7. Other cases in the wider area

5.8. Knockeenboy, Kilronane West, Kilronane East, Moreagh, Nedinagh West, Acres and Ballyhalwick, Dunmanway, Co. Cork – 21902 – Permisison GRANTED by Cork County Council in May 2022 for a 10 year planning permission for a 20 kilovolt (kV) electrical powerline grid connection, approximately 10,117 metres in overall length (made up of approximately 9,983 metres of underground cable and approximately 134 metres of Over Head Line with three wooden support single poles), connecting the approved electrical substation at Knockeenboy Wind Farm (Planning Register Reference No. 11/00059 & An Bord Pleanala Ref. PL88.240070) to the existing Dunmanway 110kV ESB Networks substation at Ballyhalwick; together with all ancillary works and apparatus. The grid connection will be developed from the approved substation through the townlands of Knockeenboy, Kilronane West, Kilronane East, Moreagh, Nedinagh West, Acres and Ballyhalwick townlands.

5.9. Shehy More, Coolcaum, Coolmountain, Tullagh, Lackabaun, Clogher, Farrannahineeny, Crushterra, Gurteen, Carrigdangan, Inchincurka, Kilnadur, Aultaghreagh ABP-301563-18, Permission granted by An Bord Pleanála in June 2019 for 10 year permission for 110kV electricity substation, 110kV underground cabling connecting substation to existing ESB substation, 33kV underground electricity cabling connection to windfarms. (Substation to serve Carrigarierk and Shehy More wind energy developments to the west, referred to as the Carrigariek Substation and Grid Connection).

5.10. Dromleena Inchanadreen and Derrynasafagh Dunmanway – 0963 – Permission GRANTED by Cork County Council in November 2009 - 19384 – Permission GRANTED by Cork County Council for Extension of Duration in July 2019. Development for 10 year permission for the erection of 11 wind turbines, borrow pit, electrical substation with ancillary hard standing and assembly area, install underground fibre optic cables and electrical cables and ancillary works. Install fibre optic cables and electrical cables along the public road to the 110kV electrical substation 1km east of Dunmanway town along the R586.

5.11. Slievereagh and Coomnaclohy Ballyvourney Co. Cork – 194972 – Permission GRANTED by Cork County Council in November 2019 for 7 turbine wind farm, solar

photovoltaic array, electricity substation, battery storage compound and all associated works.

5.12. Shehy More windfarm - PL04. 243486 (reg. ref. 13/551) – granted December 2016 (legal challenge - proceedings withdrawn June 2018). The Board granted permission for a development of 12 wind turbines at Shehy More c20km west of the appeal site. The application was accompanied by a detailed Environmental Impact Statement and EIS addendum in respect of the proposed grid connection and details regarding the route of that connection, which will be entirely by way of an underground 38kV cable. The underground cable will run within the public road corridor between the site of the Shehy More proposal and either the previously permitted substation (Garranereagh) or the currently proposed substation (Barnadivane /Kneeves). The Board's Direction notes that this was concurrently considered with PL88.246915 (grid connection from Shehy More to proposed or permitted substation at Barnadivane or Garranereagh).

5.13. Grid connection from Shehy More windfarm to Garranereagh or Barnadivane substations - PL88.246915 - In December 2016, the Board upheld the decision of the planning authority to grant permission for development of an underground cable to connect the proposed Shehy More windfarm to the National Grid by way of either the permitted substation at Garranereagh or the proposed substation of Barnadivane.

5.14. TDs incl. Gurteen, Clogher, Barnadivane and Garranareagh, Co. Cork. Permission GRANTED on Appeal by An Bord Pleanála October 2016 for 10 year planning permission for the construction of a wind farm of up to 5 No. wind turbines, with a maximum ground to blade tip height of up to 140m, upgrading of existing and provision of new internal access roads, provision of a wind anemometry mast (height up to 90 metres), 2 no. borrow pits, underground electricity cabling, underground grid connection electrical cabling including all associated infrastructure, junction accommodation works for the proposed delivery route, 1 no. electricity sub-station with control building and associated equipment, 1 no. construction compound, upgrading of the existing site access junction, permanent signage and all ancillary site works.

5.15. Carrigarierk windfarm, substation and Grid Connection to Barnadivane substation - PL04.246353 – Permission GRANTED by An Bord Pleanála in October 2016. This

decision was upheld by the High Court in November 2017. The appellants refer to this case in the context of the substation appeal. The application was under reg. ref. 147/431 for a development comprising 5 wind turbines and various ancillary works including an underground grid connection to the permitted / proposed Barnadivane substations. The planning authority decided to refuse permission but the Board granted permission following third and first party appeals. This decision was subject of judicial review proceedings and the decision of the Board was upheld by ruling of the High Court in November 2017.

5.16. Garranure windfarm, 10-15km to the south of the sites Under PL04.127137 permission was granted in July 2002 for 4 no. turbines of total height of 122m to blade tip. PL239280 was a subsequent application/ appeal to increase the height of some turbines and erect an additional, bringing the total number to 5 no. At the time of inspection 3 no. turbines were in place. The Board refused permission for the proposed modification and extension in November 2012.

6.0 Further Information Request

6.1. On 12th February 2021 the Board issued a Direction in accordance with section 132 of the Planning and Development Act 2000 (as amended) requesting further information from the applicants to the appeals as follows:

1. Having regard to the number of submissions of the file and the elapse of time, the Board considers that it would be of benefit to the parties and the Board to have available a single point of reference which constitutes the applicant's case on the topic of noise. It is also considered appropriate in view of the High Court judgement that you are presented with an opportunity to revise or update that section of the Environmental Impact Assessment Report (EIAR). In that context, you are requested to: (a) provide a consolidated and updated section of the Environmental Impact Assessment Report as it relates to noise, (b) provide a separate response to the submissions made by appellants and observers on the topic of noise, and (c) the submission under (a) and (b) above should have regard to the emerging policy context and the most up to date knowledge.

2. You are requested to identify, describe and assess any changes in the environment or policy context, including the planning history and legislation which may warrant an update to, or revision of, the Environmental Impact Assessment Report and/or the Environmental Report and to provide additional information and revise the documents accordingly.
3. You are requested to review the landscape and visual impact chapter of the EIAR and the accompanying photomontages to ensure that they are up to date and that they provide a robust consideration of cumulative impacts.
4. Regarding landscaping of the substation site, it is considered that this should incorporate dense planting on earthen berms where possible. You are requested to provide a detailed plan, which may include lands outside the site boundary, for the purpose of providing screening landscaping with berms. Any required letter of consent should be provided and the relevant lands should be outlined in blue on the application documentation.
5. You are invited to clarify the purpose of the proposed substation in the context of the comments made by third parties relating to the potential role of other permitted substations.
6. With respect to the application of the 2011 or 2014 Directive, you are requested to review the 2014 Directive and supporting regulations and are invited to provide supplementary documentation to support the EIAR, where appropriate.
7. You are invited to make a submission addressing the issue of project splitting in the context of other wind energy developments in the area and the proposed substation. You should also ensure that the EIAR provides a robust assessment of cumulative impacts.
8. The requirement for EIA for the substation development has been raised by third parties. You are requested to address this in the context of any recent relevant legal cases, the purpose of the substation and the matter of project splitting.

6.2. At the applicant request, the period for responding to the request for further information was extended multiple times, and until 28th March 2023.

6.3. A response from the applicant to the request for further information was received on 10th March 2023. The response comprised the following updated material (relevant to both appeals):

- Environmental Impact Assessment (EIA) Scoping Report
- Environmental Impact Assessment Report (EIAR)
- Planning Drawings
- Appropriate Assessment Screening & Natura Impact Statement
- Construction Environmental Management Plan
- Photomontages

6.4. In relation to the specific request for further information points outlined above, the applicant confirmed the following:

- In response to point 1.(a)-(c) refer to Chapter 9 of the updated EIAR.
- In response to point 2 refer to Chapter 3 of the updated EIAR with respect to relevant legislation. Chapters 2 and 4 of the updated EIAR include the planning history of the site including previous consultations. Appendix 1.2 of the updated EIAR provides an updated list of projects considered cumulatively.
- In response to point 3 refer to Chapter 8 of the updated EIAR and appendices, including photomontages, zone of theoretical visibility mapping and visual impact appraisal.
- In response to point 4 refer to Drawing no.P21-143-0101-0123 detailing that the redline and blueline boundary remain the same. No additional landowner letters of consent are required.
- In response to point 5, as stated in the updated EIAR, in the event that loop-in loop-out connection to the 110kV overhead line (OHL) becomes unviable, the permitted underground cabling will provide an alternative means of connecting the Proposed Wind Farm to the National Grid at the Carrigdangan 110kV substation, which was granted permission on the 28th October 2016 (Cork County Council Ref. 15/730 & ABP Ref.PL04.246353).

- In response to point 6, an Environmental Impact Statement (EIS) was originally prepared for the proposed wind farm in 2014. The EIS was prepared pursuant to the 2011 Directive. An updated EIAR is now submitted, prepared in accordance with the 2011 Directive as 'superseded' by the 2014 Directive, and the EIAR and its supplementary documents, including updated planning drawings comply with the Directive and supporting regulations. Note that the locations of Turbine 5 and 6 have moved (slightly) due to technological advancements and the turbine manufacturer's civil requirements.
- In response to point 7 an updated EIAR is submitted which assesses both the proposed wind farm and proposed substation in-combination. Each Chapter within the updated EIAR includes a cumulative assessment of impacts.
- In response to point 8 an updated EIAR is submitted assessing both the proposed wind farm and proposed substation in-combination.

7.0 Legislation and Policy Context

7.1. Since the submission of the application to Cork County Council and the subsequent publication of Inspector reports from An Bord Pleanála, there have been changes and updates to the legislation and policy context under which this appeal is to be considered. The below summarises the main legislation and policy of relevance to the appeal.

7.2. European

7.2.1. Renewable Energy Directive (2009/28/EC [REDI])

7.2.2. This Directive requires a commitment to produce energy from renewable sources and it set binding targets on the share of renewable energy in energy consumption and in the transport sector to be met by 2020. It aimed to make renewable energy sources account for 20% of EU energy by 2020. Ireland had a national target of 16%. The government decided that 40% of electricity consumed in 2020 would be generated by renewables sources. Members States must submit National Renewable Energy Action Plans and Progress Plans to the EC.

7.2.3. Recast Renewable Energy Directive (Revision 2018/2001 [REDII])

7.2.4. This Directive established a new binding renewable energy target for the EU for 2030 of at least 32%, with a clause for a possible upwards revision by 2023. This target is a continuation of the 20% target for 2020. In order to help EU countries deliver on this target, the directive introduced new measures for various sectors of the economy, particularly on heating and cooling and transport, where progress has been slower (for example, an increased 14% target for the share of renewable fuels in transport by 2030).

7.2.5. Amended Renewable Energy Directive (RED III)

7.2.6. On 9 October 2023, the EU Council adopted the amended Renewable Energy Directive (RED III), part of the "Fit for 55" package. It was published in the Official Journal of the European Union on October 31, and entered into force 20 days after that date. The RED III aims to increase the share of renewable energy in the EU's overall energy consumption to 42.5% by 2030, with a further indicative target of 2.5%. The Directive also introduces specific targets for Member States in the industry, transport, and building (district heating and cooling) sectors. Some provisions in RED III have a transposition date of 1 July 2024, with other provisions having a transposition date of 18 months after entry into force of the Directive.

7.2.7. Energy Roadmap 2050

7.2.8. This 2011 Roadmap deals with the transition of the energy system in ways that would be compatible with the greenhouse gas reductions targets set out in the REDI.

7.2.9. REPowerEU May 2022

7.2.10. In response to the hardships and global energy market disruption caused by Russia’s invasion of Ukraine, the European Commission is implementing its REPowerEU Plan to help the EU save energy, produce clean energy and diversify its energy supplies.

7.3. National

7.3.1. The National Planning Framework – Project Ireland 2040

7.3.2. The National Planning Framework 2018-2040 (NPF) set ten strategic outcomes and the First Revision to the NPF was adopted in April 2025.

7.3.3. Strategic Outcome 8 is the Transition to a Low Carbon and Climate resilient society. The NPF states that the future planning and development of our communities at local level will be refocused to tackle Ireland's higher than average carbon-intensity per capita and enable a national transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050 through harnessing our country's prodigious renewable energy potential (pg.4). Chapter 9 'Climate Transition and Our Environment' addresses renewable energy.

7.3.4. National Strategic Objective 8 – Transition to a Low Carbon and Climate Resilient Society, which includes the provision of new energy systems and transmission grids to support more distributed renewables-focused generation.

7.3.5. National Policy Objective 70 seeks to "Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050."

7.3.6. <u>The Climate Action and Low Carbon Development (Amendment) Act 2021</u>

7.3.7. The Climate Action and Low Carbon Development (Amendment) Act 2021 (Climate Act, 2021), commits Ireland to a legally binding 51% reduction in overall greenhouse gas emissions by 2030 and to achieving net zero emissions by 2050. Under section 17 'Amendment of section 15 of the Principal Act' the Board as a relevant body shall, in so far as practicable, perform its functions in a manner that is consistent with the most recent approved climate action plan, most recent approved national long term climate action strategy, national adaptation framework, sectoral plans, furtherance of the national climate objective and the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.

7.3.8. <u>Climate Action Plan 2025 (CAP 25)</u>

7.3.9. The Climate Action Plan 2025 builds upon the Climate Action Plan 2024 (CAP 24) by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings and it should be read in conjunction with CAP 24. References to CAP 25 in this report therefore also includes recognition of CAP 24.

7.3.10. As part of its functions, the Board must, in so far as practicable, perform its functions in a manner that is consistent with the most recent approved climate action plan,

most recent approved national long term climate action strategy, national adaptation framework, sectoral plans, furtherance of national climate objective and the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State [section 15(1) of the Climate Action and Low Carbon Development Act 2015 (as amended)].

7.3.11. National Peatlands Strategy, 2015

7.3.12. This document sets out a national strategy for the sustainable management of peatlands and Section 5.3 deals with Peatlands and Climate Change. It describes the role of natural undrained peatlands as carbon stores, and it references the EPA report 'Carbon Reserve -The Potential of Restored Irish Peatlands for Carbon Uptake and Storage 2007-2013' in terms of how peatland management might be used to enhance carbon sequestration and reduce emissions. It provides advice in relation to the management of non-designated peatlands to halt carbon loss and recommends restoration measures to stabilise eroding surfaces, re-establish peatland vegetation and encourage waterlogged conditions to enable peat formation.

7.3.13. Wind Energy Development Guidelines (2006)

7.3.14. The Guidelines advise that a reasonable balance must be achieved between meeting Government Policy on renewable energy and the proper planning and sustainable development of an area, and it provides advice in relation to the information that should be submitted with planning applications. The impacts on residential amenity, the environment, nature conservation, birds and the landscape should be addressed. It states that particular landscapes of very high sensitivity may not be appropriate for wind energy development.

7.3.15. Draft Wind Energy Development Guidelines 2019

7.3.16. In December 2013, the Minister for Housing and Planning announced a public consultation process with respect to a focused review of the 2006 Guidelines and a 'preferred draft approach' to the review was announced in June 2017. Consultation on the draft Guidelines ended in February 2020. The draft guidelines identify Specific Planning Policy Requirements (SPPR), and subject to formal adoption of the Guidelines, it is intended that these SPPRs would be applied by planning authorities and An Bord Pleanála in the performance of their functions, as well as having regard to additional matters for consideration in assessing wind energy developments.

7.3.17. National Landscape Strategy for Ireland, 2015-2025

7.3.18. This document seeks to integrate landscape into our approach to sustainable development, carry out an evidence-based identification and description of landscape character, provide for an integrated policy framework to protect and manage the landscape and to avoid conflicting policy objectives.

7.3.1. Government Policy Statement on Security of Electricity Supply, Nov. 2021

7.3.2. This policy statement notes that electricity is vital for the proper functioning of society and the economy. The statement lists challenges to ensuring security of electricity supply, including:

- Ensuring adequate electricity generation capacity, storage, grid infrastructure, interconnection and system services are put in place to meet demand – including at periods of peak demand; and
- Developing grid infrastructure and operating the electricity system in a safe and reliable manner.

7.3.3. Page 5 of the policy statement notes the Government has approved *"that it is appropriate for additional electricity transmission and distribution grid infrastructure, electricity interconnection and electricity storage to be permitted and developed in order to support the growth of renewable energy and to support security of electricity supply".*

7.3.4. Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure

7.3.5. This statement notes the strategic importance of investment in networks and energy infrastructure, with such development expected to take account of all relevant standards.

7.3.6. Water Action Plan 2024: A River Basin Management Plan for Ireland

7.3.7. The Plan responds to the requirements of the Water Framework Directive, to accelerate the identification and implementation of the right measures in the right places to both restore and protect all water bodies. The catchments.ie website provides substantial background information for this plan and the most current and up-to-date information on the status of local rivers, lakes and water bodies.

7.3.8. Ireland's 4th National Biodiversity Action Plan 2023-2030 (NBAP)

7.3.9. The NBAP includes five strategic objectives aimed at addressing existing challenges and new and emerging issues associated with biodiversity loss. Section 59B(1) of the Wildlife (Amendment) Act 2000 (as amended) requires the Board, as a public body, to have regard to the objectives and targets of the NBAP in the performance of its functions, to the extent that they may affect or relate to the functions of the Board. The impact of development on biodiversity, including species and habitats, can be assessed at a European, National and Local level and is taken into account in our decision-making having regard to the Habitats and Birds Directives, Environmental Impact Assessment Directive, Water Framework Directive and Marine Strategy Framework Directive, and other relevant legislation, strategy and policy where applicable.

7.3.10. The plans 5 objectives are as follows: 1. Adopt a whole-of-government, whole-of-society approach to biodiversity; 2. Meet urgent conservation and restoration needs; 3. Secure nature's contribution to people; 4. Enhance the evidence base for action on biodiversity; and 5. Strengthen Ireland's contribution to international biodiversity initiatives.

7.3.11. Framework and Principles for Protection of Archaeological Heritage, 1999

7.3.12. This document was prepared by the Department of Arts, Heritage, Gaeltacht and the Islands and sets out the basic principles of national policy on the protection of the archaeological heritage. Section 3.0 notes that: - archaeological heritage is a non-renewable resource; the first option should be a presumption in favour of avoidance of developmental impacts and that preservation in-situ is the preferred option; if removal cannot be avoided, preservation by record should be applied; carrying out an archaeological assessment where appropriate is the first step in ensuring that preservation in-situ and by record take place; and monitoring is another method of ensuring that preservation takes place.

7.4. **Regional**

7.4.1. Regional Spatial & Economic Strategy (RSES) for the Southern Region

7.4.2. The RSES provides the framework through which the NPF's vision and related Government policies and objectives will be delivered for the Region. It sets out a

strategic profile and vision for the region. The RSES outlines Regional Policy Objectives (RPOs), including the following of note; RPO 95 identifies the objective of implementation of the national renewable energy action plan as well as leveraging the region as a lead and innovator in sustainable energy generation. RPO 96 states it is an objective to support the sustainable development, maintenance and upgrading of the electricity grid infrastructure and to integrate renewable energy sources. RPO 99 states it is an objective to support the sustainable development of wind energy at appropriate locations. RPO 219 also states that it is an objective to support the provision of new energy infrastructure subject to suitable environmental assessments and the planning process to ensure the energy needs of the future population and economic expansion are met in a sustainable manner.

7.5. **Local**

7.5.1. Cork County Council Climate Adaptation Strategy 2019-2024

7.5.2. This strategy sets out the council's strategic priorities, measures, and responses for climate adaptation over a five-year period.

7.5.3. Cork County Development Plan 2022-2028

7.5.4. At the time of the planning application, the Cork County Development Plan 2014 was in place. This has subsequently been replaced by the Cork County Development Plan 2022-2028, which contains the relevant policies and objectives under which the current appeal is now being considered and these are summarised below (not an exhaustive list).

7.5.5. This section of my report sets out the local planning policy framework for the area in which the subject site is located. Relevant designations, objectives and policies are summarised below (note this is not an exhaustive list and the Plan should be read as a whole):

7.5.6. The site is located in an 'Acceptable in Principle' area under the Wind Strategy Map.

7.5.7. Objective ET 13-1 Energy – Ensure that County Cork fulfils its potential in contributing to the sustainable delivery of diverse and secure energy supply and meet renewable energy targets.

7.5.8. Objective ET 13-2 Renewable Energy – Support Ireland's renewable energy commitments, support and facilitate renewable energy proposals that bring socio-economic benefit to the local community, support the development of new and emerging renewable energy technologies and promote the potential of micro renewables.

7.5.9. Wind Energy is addressed from section 13.6 of the Plan.

7.5.10. Objective ET 13-4: Wind Energy – states that in order to ensure consistency with national targets on renewable energy and climate change mitigation, the Council will support further development of on-shore wind energy projects at appropriate locations in line with the Wind Energy Strategy and objectives under the plan.

7.5.11. The Wind Energy Strategy is referenced at section 13.6.3 of the Plan. The Strategy identifies three categories of 'Wind Development Area' for large scale wind energy developments – Acceptable in Principle, Open to Consideration and Normally Discouraged. Refer to Figure 13.2 Policy Considerations for Wind Energy Projects and Figure 13.3 Wind Energy Strategy Map under the Plan.

7.5.12. Objective ET 13-5: Wind Energy Projects – Support a plan led approach to wind energy development. The aim of identifying areas for wind energy development is to ensure that there are minimal environmental constraints. On-shore wind energy projects should focus on areas considered 'Acceptable in Principle' and 'Areas Open to Consideration', and avoid 'Normally Discouraged' areas.

7.5.13. Objective ET 13-6: Acceptable in Principle – Commercial wind energy development is normally encouraged in these areas subject to protection of residential amenity particularly in respect of noise, shadow flicker, visual impact and the requirements of the Habitats, Birds, Water Framework, Floods and EIA Directives and taking account of protected species of conservation concern.

7.5.14. Section 13.6.6 'Acceptable in Principle': These areas (River Ilen basin north of Skibbereen and an area south of Macroom) are an optimal location for wind farm development with minimal environmental impacts. They have viable wind speeds (>7.5m/s) and good proximity and access to the grid. These areas exclude urban areas and town green belts, avoid Natura 2000 Sites (SPAs and SACs), high value landscapes and Natural Heritage Areas (NHAs).

7.5.15. Objective 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.

Consideration to be given to cumulative impacts.

7.5.16. Objective ET 13-8: Normally Discouraged – Commercial wind energy development will be discouraged in these areas which are considered to be sensitive to adverse impacts associated with this form of development.

7.5.17. The site is located in an area 'Acceptable in Principle' under the Wind Strategy Map in the Cork County Development Plan 2022-2028.

7.5.18. Objective ET 13-9: National Wind Energy Guidelines – Development to be designed and developed in line with the same.

7.5.19. Objective ET 13-10: Development in line with Best Practice – Ensure that wind energy developments in the County are undertaken in accordance with best practices.

7.5.20. Objective ET 13-21: Electricity Network: a) Support and facilitate the sustainable development, upgrade and expansion of the electricity transmission grid, storage, and distribution network infrastructure. b) Support the sustainable development of the grid including strategic energy corridors and distribution networks in the region to international standards. c) Facilitate where practical and feasible, infrastructure connections to wind farms, solar farms, and other renewable energy sources subject to normal proper planning considerations. d) Proposals for development which would

be likely to have a significant effect on nature conservation-sites and/or habitats or species of high conservation value will only be approved if it can be ascertained, by means of an Appropriate Assessment or other ecological assessment, that the integrity of these sites will not be adversely affected.

7.5.21. Green Infrastructure is addressed in Chapter 14 of the Plan.

7.5.22. Objective GI 14-9: Landscape – Protect the visual and scenic amenities of County Cork's built and natural environment, protect skylines, discourage extensive removal of trees.

7.5.23. Objective GI 14-13: Scenic Routes – Protect the character of those views and prospects obtainable from scenic routes.

7.5.24. Objective GI 14-14: Development on Scenic Routes – Demonstrate no adverse obstruction or degradation of views in areas with scenic routes.

7.5.25. The site is not situated in an area recognised as a 'High Value Landscape' and does not traverse scenic routes as detailed under maps for the Development Plan.

7.5.26. Chapter 15 addresses Biodiversity and Environment.

7.5.27. Objective BE 15-1: Support and comply with national biodiversity protection policies.

7.5.28. Objective BE 15-2: Protect sites, habitats and species – Protect all designated sites or sites proposed for designation; provide protection to listed species; protect and where possible enhance areas of local biodiversity value, ecological corridors and habitats that are features of the County's ecological network; recognise the value of protecting geological heritage sites of interest; and encourage the protection and enhancement of features of the landscape.

7.5.29. Objective BE 15-6: Biodiversity and New Development – Protect and enhance biodiversity.

7.6. **Natural Heritage Designations**

7.6.1. The site of the proposed development does not overlap with any natural heritage designations. The following Special Protection Areas (SPA) and Special Conservation Areas (SAC) are most proximate to the site with approximate distance to the site indicated in brackets:

- The Gearagh SAC (000108) (5.9km);
- The Gearagh SPA (0004109) (6km);
- Bandon River SAC (002171) (10.1km);
- Mullaghanish to Musheramore Mountains SPA (004162) (13.9km);
- Cork Harbour SPA (0004030) (35km direct, c.53km instream);
- Great Island Channel SAC (001058) (41km);

7.6.2. An Appropriate Assessment of the proposed development has been carried out in Section 10 of this report below in relation to potential impacts on designated European sites.

8.0 The Appeal

8.1. Grounds of Appeal

8.1.1. <u>The ground of appeal from Jerome Cohalan and Geraldine Hanley are summarised below:</u>

- Devaluation of property. Letter from Keane Mahony Smith Estate Agents February 2015 stating that the proposed wind farm if developed will have a significant negative factor in the marketability, attractiveness and ultimately the achievable sale price of the property.

8.1.2. <u>The grounds of appeal from Barna Wind Action Group are summarised below:</u>

- The grounds of appeal comprise the original observations of 2 February 2015, further observations of 9 July 2015 submitted in response to the Council's RFI, and the submission by Michael O'Donovan of Barna Wind Action Group including enclosed material; all to be read together along with covering letter.
- The Board should have regard to the widespread extensive local opposition to the application, evidenced by signatures supporting this appeal (c.300 signatures).
- Government policy in favour of rapid development of renewable energy should not nullify other relevant policies. Objectives under the Development

Plan intend to strengthen and protect the rural communities of the area by encouraging sustainable growth, protecting agricultural infrastructure / productivity.

- The permission of large industrial wind turbines has caused the abandonment of nearby family homes in Counties Cork, Limerick and Roscommon, despite planning authority concluding no undue interference would arise to those nearby. The noise and shadow flicker elements of the 2006 Guidelines are not now fit for purpose.

  Dispute the conclusion of the Ecologist/Engineering report February and July 2015 that no further information is required as there is a lack of physical or hydrological connection to European sites. The Cummer River, which drains the northern part of the proposed site, connects with the Bulingea River, which subsequently enters the Carrigadrohid reservoir to the north west of Lissarda. Carrigadrohid reservoir stretches from Carrigadrohid village, almost as far as Toon Bridge. Carrigadrohid reservoir most certainly includes the Gearagh SAC and also the Gearagh SPA.

- Reference to High Court decision Kelly & Ors. v An Bord Pleanála (25 July 2014) in consideration of the Habitats Directive and the undertaking of AA. Also clear that the wind designated areas are illegal in many cases as there is a paucity of designated sites in the county, reference to 'The Birds Case' Judgement of the Court of Justice of European Union in Case C 418/04 Commission v Ireland.

- The applicants were asked to contact the Irish Raptor Study Group, it has failed to do so saying that it has received no response, which is unacceptable. White Tailed Sea Eagle is listed Red and there is a lack of understanding in the submitted documents concerning the ecological requirements of this species.

- The conclusions reached by the planning authority on Kestrel and Snipe were based on very little data, with no quantification of the actual losses incurred by the development. Also concerned regarding the significance of impact upon Meadow Pipit (breeding and winter visitor to the site).

- Land alterations have taken place on part of the site. Removal of field boundaries has seriously altered the flight patterns of bats that occur here (maps and photos enclosed). The creation of drainage ditches has seriously altered the rate at which water now leaves the area and has other implications.
- Only two bat roosts were recorded as being near the proposed development in error. There is a maternity bat roost in the attic of Michael O'Donovan's house and several more in other houses and outbuildings which are not assessed by the applicant in the EIS.
- Habitat types omitted from the submitted terrestrial habitat survey, including Rocky Outcrops (site of borrow pit) and an area of intact Montane Heath located on land owned by Seamus O'Leary.
- The River Bride abuts the southern margins of the site, incorrect of the planning authority report to conclude that there is no significant watercourse within any of the proposed development site.
- Little consideration given to invasive species.
- Contend that the associated substation development is Strategic Infrastructure Development. The applicant has revealed that the substation will be taken over by Eirgrid who will be free to make any connections and extensions that they wish, changing the status of the substation from only serving Barnidivane substation to SID status, qualifying it as a transmission generator.
- The applicant answered questions on the planning application form incorrectly. The site is connected to a European site. There will be significant emissions from the site. Liquid effluents will be produced, including during the operational phase, nacelle maintenance. No details given of employment or traffic generated as asked in the form. The application is therefore invalid.
- Visual Impact will be significant, there is a high mitigation risk factor, if all measures were to fail, there would be a very significant effect, the cumulative impact is huge. The do-nothing scenario is not the permitted 14 turbines as

the applicant has stated that the substation for that scheme does not meet current standards and a new permission is required.

- Reference to the Inspector's Report relating to appeal 04.219620 recommending refusal for the 14 turbines on the site, which the Board did not agree with, regarding the sensitivity of the landscape character of the site.
- The proposed windfarm will impact upon one scenic route (under the Development Plan) dramatically and others less so. Also affecting the Coppeen Waymarked Walking Trails.
- Question the accuracy of noise data presented and little faith in conditions to adequately address noise. Windfarm noise emissions should come in well below allowable thresholds. Additionally, concerning regarding noise from construction traffic.
- Archaeologist Report requests that if any 19th century field boundaries are removed, they should be recorded during archaeological testing and recording, as stated above, field boundaries have already been removed.
- No mitigation measures in place to protect the River Bride and Cummer and associated wetlands from potential leaching of CaCo3 and other minerals from the concrete basis of the turbines.
- There were 258 submissions made on this proposed development to Cork County Council, and further petitions signed and public meetings, against the development and the level of concern should be given due consideration by the Board.
- Project splitting – the application is one of a series of at least three applications dealing with individual elements of the same project, including substation and road. Substation is designed to serve other windfarms. Reference to Ó Grianna and others v An Bord Pleanála [2014] IEHC 632.
- The 2005/2011 permission should not be relied upon as valid precedent as subsequent EU Court of Justice and Irish High Court Judgements have found the assessment system in place at those times legally unsound. EIA not lawfully conducted for the original consent and not carried out at all for the extension.

- Ask the Board to note that the submission of Mr Anthony Cohu, C. Arch, Ecological Planning, Landscape & Design, of Borlin, Bantry dated 15th January 2015 is adopted by the appellant.
- Cork County Council is aware of serious unresolved noise nuisance complaints in various parts of the County which have arisen despite conditions being imposed on wind turbine operators. Reference to the submission from Noonan Linehan Carroll Coffey Solicitors to the review of the Government Windfarm Planning Guidelines (enclosed) and ask that this be treated as part of the current submission (reference to 'quiet areas' and EPA approach to assessing noise in different environments; need for 500m minimum separation distances; inadequacy of using modelling to predict impact; and need for a community impact assessment).
- Reference to the Shirley Windfarm Study (enclosed) which found that noise limits in vogue currently do not adequately protect the public.
- Residential property values will be adversely affected. Reference to enclosed material from Keane Mahony Smith which states that while comment cannot be given on the effect the proposed wind farm will have on the market value of mentioned properties, the erection of wind turbines creates apprehension in the general public which makes the property less desirable and therefore diminishes the prices of all neighbouring properties; studies have shown fear of wind farms can negatively affect purchase prices; the proposed wind farm will have a significant negative factor in the marketability, attractiveness and ultimately the achievable sale price of the property.
- EIS assessment unreliable with respect to bats. Reference to enclosed material Cryan et al published in the Proceedings of the National Academy of Sciences. This states that bats are dying in unprecedented numbers at wind turbines.
- The Councils RFI with respect to noise has not been complied with.
- The application should be assessed with regard to the published Draft Guidelines for wind farms issued by the Department in December 2013 for consultation. They prohibit shadow flicker within 10 rotor diameters of any

wind turbine and reduce the max noise level to 40dBA, which would form a basis for refusal of the application.

- Wind turbines have adverse effects on sleep and health, and should be set back at least 5km or 10km in some circumstances (Submission of Dr Christopher Hanning to the Australian Senate Select Committee 2015).

Enclosures supporting appeal grounds: Submission of Michael O'Donovan; Photographs referred to by Michael O'Donovan; Copy of Observations to Cork County Council 2nd February and 9th July 2015; List of supporting signatures; Article from Irish Examiner 26th November 2015; 'Wind Turbine Noise' British Medical Journal Editorial; 'Diagnostic Criteria for Adverse Health Effects in the Environs of Wind Turbines' Clinical Review in the Journal of the Royal Society of Medicine; 'Effects of Noise from Wind Turbines on Human Health' Deputy Chief Medical Officer in Dept. Health; 'Low Frequency Noise-Induced Pathology: Contributions Provided by the Portuguese Wind Turbine Case' & 'Clinical Protocol for Evaluating Pathology Induced by Low Frequency Noise Exposure' by Nuno Castelo Branco MD and others; Submission of Dr Christopher Hanning to the Australian Senate Select Committee on Wind Turbines February 2015; Proof of Evidence of Dr Christopher Hanning on behalf of Glenties Wind Information Group Straboy Wind Farm Oral Hearing October 2012; and Irish Examiner article 26 November 2015 'Consider Solar Energy and Other Green Options to Windfarms' say Councillors in Cork.

8.1.3. <u>The grounds of appeal from Stephaine Larkin and Others are summarised below</u>:

- The proposed substation is substantially greater in size than that previously permitted. No convincing reason has been given for the enlargement of the substation in the context of the permitted turbine development.
- The increased size of the proposed substation only makes sense if it is being enlarged to facilitate multiple future windfarm connections, of which no details have been presented. A spokesperson for the windfarm is reported in the press to have stated that the intended new substation is designed to facilitate connections from other potential windfarms up to 25km distant.
- The proposed substation is considerably larger in scale than that previously permitted and is being moved to a more visually prominent location.

- No justification for a 10 year permission.
- EIS needed.
- The substation forms part of a wider windfarm project which also includes a new road, and the separate applications amount to project splitting. The application is invalid as a result. Submission to Cork County Council on the windfarm application is enclosed and should be treated as part of the material supporting these appeal grounds. Reference to High Court decision in Ó Grianna v. An Bord Pleanála with respect to project splitting.
- Limited AA Screening Report presented, reference to High Court judgement in Kelly v. An Bord Pleanála.
- The Board can place no reliance on the previous planning permission as it was granted under a procedure which now is seen to be unlawful.
- The true scope and extent of the project is unknown.
- Lack of clarity on whether the development is intended to replace the previously permitted substation.
- The proposal will be highly visible and obtrusive over the area. It is industrial in nature and therefore entirely at odds with its rural surroundings.
- Lack of clarity on the necessity for having two control buildings with the same layout. Facilities are provided for staff, however the application states there will be no onsite staff. These facilities make the building larger.
- Detract from the scenic and rural nature of walking route and important amenity of the area in conflict with Development Plan provisions.
- The field of the proposed substation is a wintering ground for Golden Plover, Curlew, flocks of Red Wind and Fieldfare. The data presented is deficient.
- Excavation required to level the site which will require a lot of traffic from large vehicles, which the road infrastructure will not cope with. Conditions inadequate to address this.

- There is no need in terms of EU policy on renewables or in terms of national economic benefit to increase the proportion of wind generation connected to the grid.
- Lack of transparency, increased structure is to facilitate a future change to the original wind farm planning that has been granted, equating to 'Salami Slicing'.
- The new location of the substation is much more visible to the general public than the original location and cannot be effectively screened with planting. Clearly visible from the main road (R585 Bantry Line) all the way across towards Newcestown and to a huge amount of houses in the area.
- The applicant's statement that the landscape value is of the lowest level is incorrect.
- Bird surveys and data presented is inaccurate.
- Query where soil excavated from the site will go. Potential for ecological damage. There is a river below the site which is at risk of sedimentary pollution and other contaminants from the site. Risk to groundwater.

Enclosures supporting appeal grounds: Copy submission of Michael O'Donovan & Stephanie Larkin dated 23rd October 2014; Southern Star Newspaper Article 'Wind farm a second power-related blow to Lee Valley resident over 50 years on'; Copy Noonan Linehan Carroll Coffey Submission to Cork County Council 2nd February 2015; High Court Judgements referenced in submission.

8.2. Applicant's Response to Appeal Grounds

8.2.1. Response to the grounds of appeal from Jerome Coholan and Geraldine Hanley: Submitted in a letter dated January 2016. The main points raised in this response are summarised below:

- The view of KMS (estate agents) are speculative in nature and their report is not peer-reviewed or published. The published reports to date suggest that the presence of wind farms does not devalue residential property. Reference to a study carried out by Renewable UK on 'The effect of wind farms on house prices' and a study by Hoen et al. 2009 'The impact of wind power projects on

residential property values in the US: A multi-site hedonic analysis'. The results of these studies support that there is no evidence that house prices of properties surrounding wind farms are negatively affected.

- There is an operational wind farm with four turbines within 1km of the proposed wind farm. The principle of commercial wind turbines is therefore an established feature in the general area of the proposed site.

8.2.2. Response to the grounds of appeal from Barna Wind Energy: Submitted dated January 2016 in a report entitled 'Barnadivane Wind Farm, Co. Cork, (Cork County Council Planning Ref.14/6760 – Response to Third Party Appeal made to An Bord Pleanála by Barna Wind Action Group'. The main points raised in this response are summarised below:

- Part 1 of the response sets out an introduction to the report and part 2 provides a background to the proposed development including an overview of policy, legislation, site selection / description.
- Part 3 of the response addresses the grounds of the third party appeal. It addresses all submissions comprising the appeal, being the original observations submitted (Noonan Linehan Carroll Coffey Solicitors on behalf of their clients), further observations submitted in response to CCC RFI and submission by Michael O'Donovan of Barna Wind Action Group.
- In relation to the assertion that the application is invalid, the reasons for separate applications for the wind farm, substation and haul route, as well as consideration of cumulative impacts between these, has been provided in detail in the planning application, response to RFI and response to CFI. The applicant has considered the potential impacts of the proposed development overall, including grid connection and other ancillary works (incl. substation and road), in the submitted documentation with the application.
- There is a wind farm permitted at this location and this permission remains valid, if permission is not granted for the proposed 6 turbines, the applicant intends to construct and operate the permitted wind farm.
- The proposed wind farm is consistent with current energy and planning policy and the principle of the development is established in the vicinity. Reference

to the Dept. Communications, Energy and National Resources White Paper 'Ireland's transition to a Low Carbon Energy Future 2015-2030' identifying that onshore wind continues to make a significant contribution to this transition.

- Reference to the Wind Energy Development Guidelines (2006) and relevant requirements as the most appropriate approach to assessing potential amenity impact.
- The noise impact appraisal carried out for Barnadivane Wind Farm (Dec. 2014) was carried out using the 2006 Wind Energy Guideline noise limit structure which are the guideline limits in place. The local authority, while aware of the ongoing targeted review of the noise, shadow flicker and proximity elements of the guidelines, are dependent on the existing limits in order to assess existing wind farm planning applications. It would have been inappropriate for the applicant to appraise the application on any other limits other than the 2006 guideline limits, which still remain current.
- The submitted EIS conforms with requirements.
- In relation to residential property values, published reports to date suggest that the presence of wind farms does not devalue residential property. Reference to a study carried out by Renewable UK on 'The effect of wind farms on house prices' and a study by Hoen et al. 2009 'The impact of wind power projects on residential property values in the US: A multi-site hedonic analysis' in this regard.
- In relation to bats, mitigation measures proposed to reduce negative impact of hedgerow removal on bats. The study referenced in the grounds of appeal, Cryan et al, is not relevant to the current application as the habitats at the proposed site as well as the bats identified in and around the proposed site and the levels of bat activity are not comparable with the activity of the tree bat species surveyed in the study. In relation to bat collision, many of these studies are at wind farms with significantly large numbers of turbines, sited on known bat migration routes where many hundreds or thousands of bats commute seasonally, resulting in numerous deaths and injuries, and there is no evidence of mortality of bats on the same scale in Ireland.

- The planning description provides a tip height envelope in which the applicant must select a final turbine. The noise impact appraisal also provides a sound power envelope. The impact appraisal was carried out using a 107.8dB rated sound power turbine and established that up to and including this sound power can be installed using this layout and that the noise impact is not significant at non-landowner involved properties based on this sound power and layout. Also note that noise levels are not directly related to power output capacity. The noise appraisal is robust and follows standards. How loud the turbines will be, has been accurately presented.
- With respect to wind speed, this is corrected within the response to the RFI. Replacement data was provided demonstrating results that were generally lower than that presented in the EIS.
- With respect to the contention in the grounds of appeal that the Council's RFI with respect to noise had not been fully complied with, Appendix 5 to the further information submission was erroneously not supplied in full, this was corrected in a further unsolicited submission on 20th July 2015 containing the entire Appendix 5 to correct this error.
- In relation to noise level predictions and the appellants reference to a study that found noise level predictions unreliable, assumed this refers to 'Wind Farm Impacts Study Review of the Visual, Shadow Flicker and Noise Impacts of Onshore Wind Farms' prepared by SLR. This recommended that IOA Good Practice Guide recommendations would result in more robust predictions. As stated in the submitted EIS the noise predictions were carried out applying the IOA GPG recommendations in the prediction and modelling.
- The AA Screening Report submitted acknowledges a hydrological connection to the Cummer River, however impact upon the Gearagh SAC were screened out based on the distance and location of the SAC relative to the site.
- Every effort was made to obtain information on White-tailed Sea Eagle and other birds of conservation concern from relevant bodies. The proposed development site lacks suitable habitat for White-tailed Sea Eagle and there were no sightings in surveys.

- The RFI response addresses Kestrel, Snipe and Meadow Pipit.
- In relation to comments concerning land alterations and removal of hedgerows at the site, the information on habitats submitted in the EIS and RFI is the most up-to-date information available. The applicant does not have control over minor alterations to the landscape that may have occurred subsequent to submission. The removal of additional areas constitutes habitat loss for bats however this loss does not alter the findings of the impact assessment on bats.
- With respect to the suggestion that not all habitats at the site were included in the submitted map, a revised habitat map was provided in the RFI along with a table estimating area of each habitat.
- The watercourse skirting the southern boundary of the site is a tributary of the River Bride. Potential impacts upon the River Bride are addressed in the submitted EIS.
- The EIS addressed invasive species.
- Reference to the appeal grounds concerning the proposed substation equating to a SIDs development and pre-application discussions with ABP and CCC regarding the same.
- In relation to liquid effluents, chapter 2 of the EIS addresses waste disposal.
- There will be no direct discharges from the proposed development to any natural watercourses, with all drainage waters being dispersed to soakaways or as overland flows via vegetation filters at a significant distance from the nearest natural watercourses. Negligible impact on receiving waters is anticipated following application of mitigation.
- In relation to noise, the submitted appraisal demonstrates that the proposed wind farm will meet the 2006 limit.

Appendices: 1. Correspondence with CCC re. planning and red line boundary; 2. Correspondence with ABP re SID; A. Drawings of Existing Development; B. Drawings of Proposed Development; 3. Cumulative Impact Assessment;

8.2.3. Response to the grounds of appeal from Stephanie Larkin and Others: Submitted dated March 2015 in a report entitled 'Barnadivane 110kv Substation, Terelton, Co. Cork, (CCC Planning Ref. 14/557) – Response to Third Party Appeal made to An Bord Pleanála, Arran Windfarm Ltd'. The main points raised in this response are summarised below:

- Part 1 of the response sets out an introduction to the report and part 2 provides a background to the proposed development including an overview of policy, legislation, site selection / description and description of the proposed development.
- Part 3 of the response addresses the grounds of the third party appeal.
- In relation to the size of the proposed substation, it is confirmed that this is increased from that previously permitted, to address required changes in layout, potential requirement for future expansion, increased building size and footprint. These amendments are required in order for EirGrid to assume operational control of the majority of the substation. Eirgrid will not connect the wind farm if the substation is not compliant with its operational requirements.
- In relation to the proposed location, due to the increased size of the proposed substation, the previously permitted location is no longer suitable. It would require an existing overhead line (110kv) to be diverted around the substation compound. If diverted west, it would be closer to the permitted turbines, if diverted east, it would require diversion to the other side of the road. Any diversion would also require planning and Eirgrid consents. The permitted location would also require additional removal of hedgerow to facilitate the increased size, with additional ecology impact and also requiring additional land agreements. It would also be 200m (approx.) closer to dwellings in the permitted location.
- In terms of intended function, the proposed substation is being developed as 'contestable works', with the asset being transferred to Eirgrid once complete. The applicant therefore has no control over what future connections would be made. Intended that the proposed application for 6 wind turbines, replace the existing consent for 14 turbines, and connect to the proposed substation. If

the application for 6 wind turbines is unsuccessful, intended the approved 14 wind turbines connect to the proposed substation. There are no plans for further phases of wind energy development in the immediate area surrounding the proposed wind farm. The substation would replace the permitted substation.

- The proposed substation is located in a landscape type defined as Fissured Fertile Middle Ground in the Development Plan. With a corresponding landscape value of low, a landscape sensitivity of low and a landscape importance of low. The nearest scenic route is on a third class road near the village Terelton, approx. 1.75km to the northwest. Screen planting is proposed. Significant landscape and visual effects will not result, with effects being slight and localised in nature.
- While staff will not be stationed at the site, maintenance staff will visit and require facilities.
- Construction material for fill and hardstanding areas will be sourced from local quarries and sourced on site from surplus material from excavations. Access to the site will be from the R585, along a local road north of Garranereagh. A new access road would provide access to the substation site. Procedures will be in place to manage construction traffic and minimise disturbance.
- A 10 year permission is sort in light of the association of the proposed substation with the permitted and proposed wind turbine developments and the associated period to complete either of those developments. Reference to Circular Letter PD 3/08 (Dept Environment Heritage and Local Government) highlighting that authorities can consider granting permission for a duration of longer than 5 years, in recognition of the need for flexibility and proper sequencing of permissions and grid connections.
- A standalone application for the substation is submitted as it allows for grid connection (if approved) to either the proposed 6 wind turbine is approved, or if not approved, the permitted 14 wind turbines. Also follows advice from Cork Council. Reference to pre-application consultation with Cork County Council and An Bord Pleanála.

- An EIA Screening Report concluded that the proposed development is not likely to have significant effects on the environment. With respect to project splitting, the cumulative impact of all elements of the proposed wind farm project are assessed in the EIS for the wind farm application. The Environmental Report with accompanies the planning application assesses the cumulative impact of the proposed substation, with permitted wind farm and adjacent operational Garranereagh Wind Farm, and any other relevant development in the area.
- The proposed development is in line with EU, national and local energy policy.
- In relation to the ecological points raised in the grounds of appeal, reference to materials submitted with the application.
- The wind farm permission on the site remains valid.

Appendices: 1. EIA Screening Report, Correspondence to ABP, A. Drawings of existing Development, B. Drawings of Proposed Development; 2. AA Screening Report, CV Dr. Alison McGarthy, CCC Planners Reports; 3. Figures showing constraints associated with site selection; 4. Detailed landscape plan; 5. Correspondence with An Bord Pleanála re SID; 6. Correspondence with CC re. planning and red line boundary; 7. Response (cover letter) by applicant to RFI; 8. Copy of newspaper notice; and 9. Copy of DoEHLG Circular Letter PD 3/08.

8.3. **Submissions**

8.3.1. Observations to the Appeals 2015 / 2016

8.3.2. There were 9 observations received to the appeals as originally submitted and these are summarised below:

8.3.3. Eleanor O Leary:

- Currently reside 1.6km from the existing wind farm at Garranereagh and experience noise impact. Estimate the proposed wind farm is 1km away and concerned that the noise pollution would be detrimental to physical and mental wellbeing. Particularly concerned regarding their child who has a hearing impairment and wears a hearing aid, and potential adverse effect due to increased noise and interference.

- Consider that the existing wind farm is causing interference with signals (including WiFi) for the property which would be exacerbated by the proposal.
- The proposed area for the development is one of outstanding natural beauty. Proposal will have a negative, irreversible visual impact.

8.3.4. Sarah Hodkinson and Others:

- Share the concerns outlined in the appeal regarding visual impact upon the rural landscape. The turbines will be visible from several scenic routes and will be adjacent to an area of 'high landscape value' from which they will be visible, and significant impact on all of the Coppeen Waymarked Walking trails. The R585 known locally as Bantry Line is an important tourist route.
- Cumulative impact of the many wind farms, existing, proposed and still to come that is of concern. The proposed substation is clearly intended to serve many more turbines than the 6 proposed. The developers have stated their intent to connect the proposed 12 turbine windfarm at Shehy More (PL 04.243486) to the substation. Splitting the applications is disguising the overall cumulative impact.
- All aspects of the wind farm project including substation require assessment in the EIS.
- Concern the submitted bird survey did not fully account for proximity to the Gearagh European sites and potential impacts. Note the Shehy More EIS (13/551) and that it eventually transpired there were records of White-tailed Sea Eagle using the area on a regular basis in that case.
- Concern regarding hydrological impact and baseline data inadequate in this regard.
- Concern regarding noise and impact upon proximate dwellings. Consider submitted data inadequate in this regard. Request the Board undertake their own assessment. Concern regarding related health and sleep consequences.
- Reference to section 2 of the Vestas V90 'Safety Regulations for Operators and Technicians' V90-3MW/V100-2.75MW, indicating that it is not safe for

people or animals to be within 400m of the base of a turbine. Reference to a fire at a wind turbine at Cappaboy windfarm.

- Omissions in the EIS, the Board cannot rely on the information supplied.

Enclosed: Map of nearby wind turbines.

8.3.5. Stephanie Larkin:

- Project splitting and un-disclosure of full project extent.
- Animal welfare and local amenities. Reference to part share in a race horse that uses land adjoining the proposed wind farm and that horses are sensitive to the sound of turbines, so the horse will have to be moved adversely affecting amenity.
- Query whether necessary landowner consents have been provided.
- Query whether the proposal will exacerbate flood risk.
- A White-tailed Sea Eagle has been observed in the Gearagh nature reserve.
- No attempt has been made with local residents to establish if they have bat roosts on their property. Reference to the name of 4 local residents living on the perimeter of the site, whom have objected to the development and state that they have a/several bat roosts on their property.

Enclosed: Copy of site notice; Copy of notification of public information session by the developer.

8.3.6. Michael Allen:

- Real visual impact uncertain due to poor quality photographs submitted. The impact will be huge.
- Concern regarding noise.

8.3.7. Teresa Flynn:

- Significant visual impact. Poor quality photographs submitted.
- Concern regarding noise in an area where noise barely exists.
- Doubt the effectiveness of mitigation measures.

8.3.8. Nigel Fennell:

- The visual impact will be devastating.
- Animals can feel the vibrations and don't like it, evidenced by the number of dead animals on the roads in the area since the turbines were put up. Animals running from the hills onto the roads.
- Concern turbines will spook horses causing injury to people.
- Concern regarding noise levels.

8.3.9. Patrick Manning:

- Concern that they will be forced to leave their home due to noise.
- Property will be unsalable.
- The proposal will have a hugely negative impact on peaceful and quiet area.

Enclosed: Copy of newspaper article The Southern Star 'Windfarm a second power-related blow to Lee Vally resident 50 years on'.

8.3.10. Michael P. & Mary O'Riordan:

- Spoil view from property.
- Concern regarding noise levels, leading to constant headaches and impact on sleep, as well as other health factors from shadow flicker.
- Devaluation of property.

8.3.11. Anthony Cohu (C.Arch, Ecological Planning, Landscape & Design)

- European and National Renewable Energy Policies and Programmes have never been through a clear, comprehensive and verifiable Strategic Environmental Impact Assessment (SEA) procedure to establish their veracity and viability as required under EU Law and are currently before the Courts of both jurisdictions. Until these SEAs are prepared with public participation windfarm applications should be invalidated or refused as premature.
- The proposal does not conform to the guidelines on Wind Energy Development from the Dept. Environment, Irish Planning Institute, Development Plan, nor sustainable development criteria.

- The application is premature until CCC have developed a Sustainable Energy Policy with an Alternative Energy Strategy for the County and subjected this to SEA.
- There is an excessive concentration of windfarm development in the landscape.
- A decision to grant would be inconsistent with refusals for similar proposals on similar skyline locations ref.209745, 03/6910 where larger turbines were refused to a previously permitted windfarm.
- The proposal is a material contravention of Objectives under the Development Plan for Energy Networks and Infrastructure, Renewable Energy, Wind Energy Projects, and Heritage and Environment since it is located adjacent to a High Value Landscape Area.
- Proposed location is prominently visible from Scenic Route SR36 around Terelton, the SR35 near Kilbarry, from the Gearagh, SR32 near Inchigeelagh, and SR26 near Renaniree, equating to a material contravention of the Development Plan policy for preservation of Heritage and Environment 'where views from scenic routes are to be preserved or improved.'
- County Cork has contributed more than its proportionate share of wind energy development to national renewable energy targets, and its new Wind Energy Strategy is unfit for purpose.
- With reference to the applicants claim that wind energy is having real and significant benefits in reducing carbon intensity of electricity generation, submit extracts from papers contradicting this view for Ireland. The most cost-effective means of CO2 reduction for the energy sector is not the generation of superfluous electricity supply but through energy efficiency.
- Re-powering with bigger turbines is unlikely to obtain more electricity from the same area. Reference to factors to support this conclusion and in explanation of wind power intermittency.
- The Wind Energy Guidelines 2006 need to be updated. The Irish Planning Institute Guidelines for Wind Energy 1995 were more comprehensive and detailed.

- Objectives under the Cork County Development Plan 2009 would have precluded the 11/6605 Grant of Permission to the extended proposed development if rigorously followed.
- The EIS reads more like a promotional document for the wind farm, various factors have not been considered, inadequately addressed or misrepresented.
- The proposed wind turbines are nearly twice the height of County Hall and twice the height recommended in the IPI Guidelines.
- The VIA fails to meaningfully demonstrate through photo-montages the likely visibility of the proposed development from sufficient relevant view points. Its visibility from Scenic Routes to the West, the North West, the North and particularly around Terelton, is significant and not thoroughly examined.
- Reference to An Bord Pleanála Inspectors' reports recommending refusal for windfarms at Milane Hill, Cappaboy, Goulacullin, Mullaghmesha, and Coomlea. There are grounds of refusal including adverse impacts on amenity, tourism, and recreational potential, being visually and unduly obtrusive and out of character, injuring the natural beauty of an area, creating cumulative impacts with other windfarm development, and having an adverse effect on property values.
- The EIS ignores the tourism value of the receiving landscape, and that the environment should be maintained and enhanced as the fundamental resource of the tourism sector.
- The baseline studies of Flora and Fauna do not consider that local people confirm that there is important bird life in the area, including regular sightings of Hen Harriers, Choughs, Ravens, while Sea Eagles have now begun to be sited on Lough Allua.
- The proposed windfarm site lies within an area richly endowed with significant archaeological structures and of Significant Archaeological Potential. There are numerous recorded monuments including Stone Circles, Standing Stones, a Souterrain, a Boulder Burial, Megalithic Tombs, and Fulacht Fia sites within a 5km study area of the site. This is not sufficiently assessed in the application.

- There is considerable evidence that the lack of DoEHLG Guidelines on measurements of background noise levels is allowing measurements made with dubious methodology which allow elevated levels to be set as the base criteria for defining the maximum noise levels permitted at nearby receivers.
- The main potential hydrological impact on aquatic ecology will be an increase in run-off following a rainstorm event, increasing the peak flow to the watercourses on site, and further problems can be caused by washing down watercourse of large amounts of minerals and peat debris. The assessment is deficient in this regard and fails to consider the experience of local people. The rainfall data used in the calculations of landslide risks are underestimated by not using data from the immediate locality.
- The lack of information of on the connection to the ESB grid is major cause for concern.
- No justification for the long planning permission term sought.

8.3.12. Further First and Third Party Submissions – subsequent to the Board's Direction of July 10th 2017

8.3.13. Following the decision of the High Court to quash the Board Order with respect to case files Ref.245824 and Ref.244439 (as described in section 1 above), and with regard to the passage of time, the Board invited further submissions under section 131 in July 2017.

8.3.14. Noonan Linehan Carroll Coffey (NLCC) Solicitors on behalf of Stephanie Larkin and Michael O'Donovan:

- Continue to rely upon the grounds advanced in the Judicial Review proceedings High Court Record Number 2016/614JR which were not dealt with when the said proceedings were compromised by agreement.
- The applicant and related companies have submitted an application for a substation next to the proposed Carrigarierk wind farm (ref.17/431) which the proposed 6 turbines may be connected to and the Barnadivane substation may never be constructed. The Board should identify and describe on record what 'the project' is with reference to obligations under EIA and AA.

- Properties nearby to the windfarm/substation will be devalued. Enclose FCN Working Paper No. 3/2012 – The Impact of Wind Farms on Property Values: A Geographically Weighted Hedonic Pricing Model by Yasin Sunak and Reinhard Madlener May 2012, rev. March 2013, to evidence this.
- Reference to the Ardglass planning refusal (Ref.PL04.246824) where the Board refused permission on the basis that the local noise environment would be significantly changed.
- Amplitude Modulation has been internally recognised as an adverse impact of noise from turbines of this scale.
- Submission of Stephanie Larkin and Michael O'Donovan:
    - Reference to the Inspectors report for Ref.PA0046 which notes that the overriding consideration is that the assessor be able to reasonable justify that there are no other suitable noise sensitive locations in the vicinity of the proposed development where background noise levels would be expected to be consistently lower than the levels at selected positions. The locations selected by the applicant for noise monitoring have been determined by security concerns and are not truly representative of the complex array of background noise levels associated with the proposed development.
    - Question the validity of noise monitoring locations H48 and H40 which are not representative of the typical baseline for background noise.
    - The refusal by the applicant to carry out further noise surveys and the lack of a detailed account from Cork County Council and ABP as to why this was acceptable is strong grounds for judicial review.
    - Recent research has found flaws in how background noise is being assessed, coupled with press release of the Minister of new stricter noise guidelines for wind turbines, is admittance that the current guidelines are unreliable.
    - Reference to research paper from 2012 conducted in the south west of Ireland called 'Assessing noise from wind farm developments in

Ireland: A consideration of critical wind speeds and turbine choice.' Demonstrates the difficulty of predicting turbine noise.

- Reference to research paper published by the Mechanical Engineering Department of Adelaide University in 2012 'Wind farm noise – what is a reasonable limit in rural areas?' This casts a serious shadow over Government Guidelines for wind farms and deals especially with the alleged masking effects of Background Noise and also Tonality and Amplitude Modulation.
- Urge the Board to set aside this application until new noise guidelines are in place and Local Authorities are equipped to accurately monitor wind farm turbine noise emissions.
- There are walking routes along part of a recognised scenic route on the site, query why a noise sensitive location wasn't chosen to represent 'areas of special recreational amenity importance' as stated in the Guidelines.
- If granted, dwellings in the area will be situated between 2 windfarms, the proposed one and the permitted one at Garranareigh, with a serious reduction in the residential amenity of their property.
- The visual impact of the 2 wind farms with differing heights, 105m at the existing site and 131m at the proposed site, will create an inharmonious and extremely visible industrial feature on the landscape in contravention of the guidelines. The existing windfarm is just over 800m from the nearest proposed turbine, effectively creating a single windfarm with differing turbine heights contrary to the guidelines.
- Reference to PA0046 Inspectors report, which recommended refusal, with the inspector recommending that the effect of shadow flicker on 2 story houses, not just houses with windows at 2m high should be modelled. Not satisfied with the robustness of the shadow flicker results.

- Query why the applicant is so dismissive of the Keane Mahony Smith auctioneers assessment of valuation of properties in the vicinity of windfarms in Cork.
- Extensive local opposition that has not been given due consideration by either Cork County Council or the Board. There were 259 objections to the application to the Council.
- The multiple applications associated with the development amount to project splitting.
- The applicant, Council and ABP have ignored local resident information regarding the location of bat roosts. ABP should ensure that a reliable and robust bat survey is carried out as part of the EIS for the application, and if not, intend to take the matter to The European Court and to petition The European Parliament and lodge a complaint with The European Ombudsman.
- Information provided by locals of breeding and wintering birds on the site has been ignored and derided as being unverified, despite being provided by ornithologists. Reference to previous information submitted to the Board with respect to the same. This year, as usual, multiple breeding pairs of snipe, grasshopper warbler, wintering snipe and a solitary woodcock foraging and roosting, all observed on the site.
- The applicant sates that there are no recreational activities associated with the site, which is inaccurate. Local hunting groups use the site for hunting hares and foxes. A National hare coursing event was held on the lands of Barry O'Sullivan (stakeholder).
- The Inspectors report for the Barnadivane substation was a resounding rejection of the application and proposed development. Points raised included visual impact / scenic routes proximate to the site, zone of theoretical visibility incomplete, visual impact of cutting the site, visual impact with regard the human scale incomplete, introduction of significant industrial installation and project splitting. Having regard to the extensive points raise by the inspector, consider that the Board has

not properly discharged its duty with respect to dismissing the recommendation of the inspector.

- Unresolved issues with regard to the alleged revised Eirgrid substation layout, size, capacity and location. Request evidence for, and the nature of, a grid connection at Barnadivane and evidence for, and the nature of, a grid connection at the newly proposed substation at Carrigarierk to Dunmanway.
- As an experienced horticulturalist, the planting plan lodged by the applicant is unworkable, inadequate and pointless. Full of factual errors, misinformation, parts of it are senseless and demonstrates a mind which has not managed to engage with the requirements of the brief. Refer to initial submission in this regard. Request that the Board get a competent person with relevant experience to assess the planning plan.

Enclosed: Audible amplitude modulation – results of field measurements and investigations compared to psychoacoustical assessment and theoretical research, Mike Stigwood, Sarah Large and Duncan Stigwood, August 2013; Initial findings of the UK Cotton Farm Wind Farm long term community noise monitoring project, Mike Stigwood, Duncan Stigwood, Sarah Large, Nov. 2014; The noise characteristics of 'compliant' wind farms that adversely affect its neighbours, Sarah Large, Mike Stigwood Nov.2014.

8.3.15. Eleanor O'Leary:

- Live 1.6km away from an existing wind farm in Garranereagh, Lissarda, County Cork. Since this wind farm became operational we experience noise pollution levels ranging from mild to extreme.
- Estimate that one of the proposed turbines will be less than 1km away, increasing the current level of noise because of the proposed size, number and proximity. The level of noise will be detrimental to out physical and mental wellbeing. Especially concerned about young child living at the property with a hearing impairment.
- The existing wind farm is also interfering with WiFi signals at the property.

- The proposed area for development is one of outstanding natural beauty, renowned for its views, and five counties can be viewed from most points on the proposed wind farm. The proposal will negatively and irreversibly impact on the area visually.
- The proposed development will negatively impact on property value.

8.3.16. Sarah Hodkinson:

- Cork Planning Authority has not properly carried out its duty in respect of 1) the process employed in the carrying out of a peer review, 2) its tacit acceptance of the findings of that peer review which lacked any critical appraisal and 3) its decision to revoke part of its own RFI re: further additional noise monitoring.
- It is irrelevant whether the results would be the same, that is the point of scientific testing. It is a major flaw in the project that the planning authority accepted Awn Consulting's reasoning on this matter and strong grounds for seeking judicial review.
- Peer review should have been carried out outside the republic.
- In relation to project splitting, query whether the Board have considered the Road (14/06803) part of the project.
- Splitting the applications places a financial burden upon the public wishing to make submissions etc. multiplying the cost. Physical files also split across to locations making public access more difficult.
- There is a hydrological connection to the Gearagh SAC/SPA via the Cummer River, hence to Carrigadrohid Reservoir. Where the Crummer enters the reservoir is an extremely important habitat for birds, especially migratory ones, as there are very rich mud banks exposed here. Birds using this site move between it and the Gearagh SPA as water levels in the reservoir fluctuate and between feeding and roosting. A chemical spill could contaminate the Cummer River and be in the Carrigadrohid Reservoir very quickly before any mitigating actions could be taken.

- Inland Fisheries Ireland produced an executive summary in 2011 on field surveys done in the Lee River catchment including The Cummer River. They report a >1/m^2 density of river lamprey in The Cummer River. The Habitat Directive states that 'Worst Case Scenarios' should be demonstrated.
- In accordance with the Aarhus convention, environmental data may be gathered from the public based on local experience. Do not believe that the applicant, Cork County Council or the Board have listened to the public in respect of local environmental information that they possess.
- Environmental effects should be taken into account at the earliest possible stage as required in the EIA Directive. As the applicant has changed their approach to the substation during the course of the application, the County Council have not been able to properly assess the potential impacts of the project, with final details only emerging once before the Board. Considerations made at Board level cannot be construed as 'earliest possible stage' as stated in the directive.
- A key and fundamental element of The Aarhus Convention is the 'Zero position' which is an opportunity for public participation when all options are still on the table. The applicant has however presented a fait accompli where there are no alternatives.
- The responsibility for assessing cumulative effects lies not with the applicant but with the relevant authorities. (Ref. to Environmental Management Instruments for Port Areas).
- Believe that a competent and comprehensive demonstration of the overall cumulative effects of The Barnadivane Wind Farm Project including Shehy More Wind Farm (13/551, PL04.243486), Carrigarierk Wind Farm (15/730, PL04.246353), the Shehy More Grid Connection Cable to Barnadivane (16/256) and all other associated works including the newly proposed substation and cable route at Carrigarierk (17/431) to which the applicants suggest Barnadivane Wind Farm could be connected.

8.3.17. <u>Further circulation of documents - subsequent to the Board's Direction of 31st August 2017</u>

8.3.18. By Direction dated 31st of August 2017 the Board decided that the applicant and the planning authority should be given opportunity to comment on the observations received (as summarised above).

8.3.19. A further response was received from NLCC Solicitors (Barna Wind Action Group) on 6th and 9th October 2017 and this was also circulated to the planning authority and the applicant. This further response is summarised below:

8.3.20. Further response from NLCC/Barna Wind Action Group dated 6th (email) and 9th (hardcopy) October 2017:

- Serious noise nuisance is being experienced in multiple sites due to windfarms which claim to be complying with their Board-drafted noise conditions. Councils have difficulty taking enforcement action due to badly-drafted conditions from the Board.
- Ministers consider current wind guidelines to be unfit for purpose, however the Board is relying on this unreliable and unfit guidance. Does not address the recognised nuisance of excess Amplitude Modulation.
- Submissions enclosed as summarised below –
- Patrick Manning; 2 properties will be subjected to noise levels in excess of 43db the allowable night time limit, and could be higher than predicted (maps identifying properties enclosed illustrating distance of one at 400m from T4).
- Denis Buckly, Michael O'Donovan & Stephanie Larkin; While the High Court Order required recirculation of documents, this information is now out of date (and so incorrect) as the historic planning permission no longer exists. The applications should be reassessed in light of this as the submitted logic and rationale can no longer be applied. (Distances to proposed wind farm of properties highlighted, 8 properties between 572m and 994m).
- KMS Auctioneers; Certificate of Current Market Value carried out (enclosed) for properties at Ashmore House (Geraldine Hanley), Gurranreight (Jerome & Nickie Cohalan), Gurranreight (Dan & Tessie Galvin) and Moneygave (Paddy & Noelle Sheehan). Studies have shown that fear of wind farms can negatively affect purchase prices and there is continuing scientific uncertainty over the advance health consequences. The proposed wind farm if developed

will have a significant negative factor in the marketability, attractiveness and ultimately the achievable sale price of the property.

8.3.21. Applicant's response to submissions:

8.3.22. The applicant submitted a response contained in a report entitled 'Barnadivane 110kv substation, Terelton, Co. Cork, (An Bord Pleanála Planning Ref.PL04.248125, Cork County Council Planning Ref.14/557) – Response to third party submissions made to An Bord Pleanála' Arran Windfarm Limited, November 2017. The main points of this response are summarised below:

- Hayes McKenzie provides a detailed response to the noise issues raised and is appended to the report.
- In relation to noise, the issues raised in the submission are, in general, already considered within the documents submitted with the planning application and in response to a request for further information. Consider that the proposed wind turbines will meet the intent of the current Wind Farm Planning Guidelines 2016.
- Regarding potential effect on wireless equipment, it is possible some houses in the immediate vicinity may require remedial measures, and this matter will be addressed individually as need arises. Following a telecommunications baseline survey, if additional impact are experienced post construction, a qualified expert will be deployed to address the same.
- With reference to project splitting, as noted by ABP, both the wind farm and substation applications were considered simultaneously by ABP, therefore allowing an EIA of the entire project. Reference also to a separate application for a road. The reasons for separate applications have been previously set out. Cumulative impacts are assessed in the application. Note two further applications pending in proximity to the site. The Shehy More grid connection application and the Carrigarierk substation application lodged subsequent to the making of the subject application. Both are subject to their own EIS/EIAR/NIS. Important to add that the Barnadivane wind farm planning application as presented to ABP can be built and operated independently of the Shehy More grid connection and the Carrigarierk substation consents.

- With reference to the Aarhus Convention and Public Participation, the planning application has gone through significant public consultation both voluntary and statutory.
- In relation to Eirgrid compliance, the applicant addressed the rationale behind the substation layout, size, capacity and location change in the response to RFI from Cork County Council in relation to planning permission 14/557 and in response to third party appeal (219620). Appendix 2 contains drawings of the substation layout required by Eirgrid.
- It is highly unlikely that any silt-laden runoff or pollutants that may arise during the construction of the wind farm would enter the upper reaches of the Cummer River, let alone the Carrigadrohid Reservoir, and then in turn mix with upstream waters at the Gearagh cSAC.
- Cumulative impacts are addressed in section 4.4 of the Response to Additional Further Information Request submitted to Cork County Council Sep 2015.
- In relation to landscape and visual impact, the area is designated as 'acceptable in principle' for wind energy development and reference to objective ED-4 in the Development Plan regarding the same. The cumulative visual impact of the proposed wind farm in conjunction with the Garranereagh Wind Farm is addressed in Section 8.3.1 of the EIS. Visual impact and residential amenity are addressed in section 3.2.4 of the response to third party appeal January 2016. There is no legal or planning definition of what determines residential amenity, which is a matter for professional judgement. Minimum separation distances are achieved.
- In relation to recreational activity on the site, no submissions were received from any hunting groups or local walking groups. The planning boundary is 885m from the closest scenic route (figure 3-1). No recreational trails are in evidence in the vicinity of the site on the Irish Sports Council website. While there are tracks adjacent to the site none of these are marked as waymarked walks in the OS Discovery Series mapping. The road along the south western boundary is a public road which will not be negatively impacted by the wind

farm. Wind farms are recognised as sites which can enhance and encourage recreational amenity.

- In relation to shadow flicker, there is no reference in either the current or draft guidelines to the height of dwelling being determining factor in assessing shadow flicker. The applicant is committed to carrying out a shadow flicker compliance check within the first years of operation of the wind farm in accordance with adopted standards at the time.
- In relation to human environment and property valuation, published reports to date suggest that the presence of wind farms does not devalue residential property. Reference to studies 'The effect of wind farms on house prices' Renewable UK and 'The impact of wind power projects on residential property values in the US: A multi-site hedonic analysis' by Hoen et al. With reference to the submission from NLCC Solicitors and enclosed working paper on 'Impact of wind farms on property values', this is a working paper and as such released to share ideas on a topic, and has not been through peer-review. Of the 5 existing studies it reviews, 3 found no significant impact, one found a fairly weak explanatory power and one model (based on northern New York) found a significant result. The working paper is based on a study in Germany. The result of the study is ambiguous, stating that 'visibility had no significant impact on property values' it acknowledges further investigation of wind farm proximity and specifically visibility is needed. In relation to the KMS Auctioneers enclosure with the submission, it is difficult to provide an accurate valuation on rural properties and the same principles cannot be applied to rural properties as to urban housing evaluation. KMS has not outlined their methodology.
- In relation to ecology and bat survey data, note the EIS methodology and results with respect to the same as well as data submitted in response to further information request (July 2015). The study noted in the submission by Stephanie Larkin & Michael O'Donovan (August 2017) is not relevant to the current planning application, as the habitats at the proposed site as well as the bats and bat activity is not comparable.

- In relation to wintering and breeding birds, note the EIS findings with respect to the same, as well as the response to request for further information (May 2015).
- In relation to the planting plan, if required a more detailed plan will be submitted prior to construction, however it is important to note the primary objective for this planting is to maintain connection between hedgerows for the purpose of Bat activity.

Enclosed: Appendix 1 Response to Noise submissions which outlines the experience of the author of noise assessment documentation for the application and that the matters raised relating to noise in submissions are generally already dealt with in application documents; Appendix 2 Eirgrid Substation Design.

8.3.23. Further submissions – subsequent to Board's Direction of 18th December 2017

8.3.24. Following Board Direction dated 18th December 2017, the applicant's response as summarised above was circulated to all parties and observers. Responses are summarised below:

8.3.25. Planning Authority:

- No further comments.

8.3.26. NLCC Solicitors on behalf of Barna Wind Action Group:

- The response, dated 29th January 2018, comprises cover letter from NLCC solicitors; report by Dick Bowdler Acoustic Consultant including enclosures; letters from Denis Buckly, Patrick Manning, Michael O'Donovan and Stephanie Larkin, local residents and members of Barna Wind Action Group; Map showing the location of the windfarm development site and the location of houses including those party to the submission; Appeal decision RES Developments Ltd West Devon; Decision on wind farm near Swinford; University of Salford Research into AM final report July 2007; Wind Turbine AM Review report Parsons Brinckerhoff August 2016; Inspector's report PL04.243630; Acoustics Bulletin article A Planning Condition for wind turbines; Examination of Significance of Noise commissioned by SEAI Marshall Day Acoustics Nov 2013; and ETSU-R-97.

- Our clients continue to rely on those grounds advanced in the Judicial Review proceedings High Court Record No. 2016/614JR which were not dealt with when the said proceedings were compromised by agreement. We expect the Board to address those grounds.
- Clarification that two errors made in previous correspondence. First concerning a reference no. for a Board refusal relating to the Ardglass windfarm, the second relating to the assertion concerning an increase of 6-11 decibels over ambient noise as being an increase of 6-11 times ambient noise. However basic point remains that the Inspector and Board in the first Ardglass case regarded an increase of 6-11 decibels over ambient levels as an unacceptable interference with residential amenity.
- The door number for Mr Mannings properties is clarified.
- Windfarm noise is an issue that we submit the Board has not adequately confronted in its decisions to date. It is not enough to say that this is an enforcement matter. None of the windfarm permissions granted by the Board has a condition limiting amplitude modulation in specific terms, even though AM is now recognised on all sides as a key source of noise complaints from windfarms. (Refer to submitted report).
- In the applicant's response on impact upon property value, they refer to two studies, neither of which is provided. RenewableUK is a trade association representing members. As the findings of the studies are not provided, the Board cannot rely upon them.
- Continued reliance upon the 2006 wind guidelines is unsound and unscientific and fails to meet legal obligations under the EIA Directive in terms of assessment of impacts in light of current knowledge.
- Report of Dick Bowdler Acoustic Consultant, commenting on the Hayes McKenzie response Nov 2017:
    - Outlines the evolution of understanding around Amplitude Modulation (AM) noise.
    - The EIS and Mr Hayes have suggested that significant blade swish is included in noise limits (ETSU-R-97) however this is not the case.

- Suggest condition for AM as summarised in the paper published under Acoustics Bulletin November – December 2017 (attached).
- The DoEHLG Guidelines say nothing about the inclusion of AM in the limits and the suggestion in the EIS is that, therefore, AM should not be taken into account, however since the guidelines and ETSU-R-97 were written, it has become apparent that there is AM of a type not envisaged in either guidelines.
- The Hayes report does not respond to the specific criticism of monitor receptor location H48 that measurements at or near the top of hills are often quieter than valley locations.
- The 35 to 40dB limit for low noise environments originates from the UK guidance and the lower limit of 35dB or 40dB should be followed by a limit of 5dB above background noise. There is no jump to 45dB as can be seen from figure 3, page ix of ETSU-R-97.
- The DoEHLG Guidelines refer to using the fixed 35-40dB in low noise environments. They do not say the fixed limit should be used when the noise is less than 30dB. A low noise environment is one where underlying noise level is less than 30dB – that is the level excluding weather related noise.
- The lower limit should be 35dB not 40dB in this case. No justification has been given for using 40dB rather than 35dB or any other figure. This would still result in noise limits in excess of 5dB above background noise and so 35dB should be the highest acceptable limit.
- Predicted turbine noise level without any AM penalty is very close in many cases to the applicants proposed limits in the EIS. Risk that nearest houses will suffer AM, and cause a breach of the limits. If realistic limits are applied to comply with the Guidelines, then there will be a breach of those limits by a considerable margin. Any AM penalty will increase that breach further to the extent that it may be impossible to mitigate turbine noise sufficiently.

- Letter from Denis Buckley: Farm boundary is less than 300m from turbine 6 of the proposed wind farm. Noise from the existing Garranreigh wind farm more than 2km away, distressed horses on the farm. Health and safety issue.
- Letter from Patrick Manning:
    - Investment property identified as H38 has not been considered with respect to noise assessment. It is noted as being a derelict dwelling. It is only 400m from T4 and therefore short of minimum distances.
    - Property of residence identified as H55 will be subjected to noise levels in excess of the allowable 43db limit.
    - The area is a quiet rural setting, the EPA recommendation for quiet areas is 30db and 27db for day and night respectively.
    - Reference to studies – James, R. (2012) 'Wind Turbine Infra and Low-Frequency Sound: Warning Signs That Were Not Heard' Bulletin of Science, Technology & Society 32(2) 108-127; Hanning, C. (2010) 'Wind Turbine Noise, Sleep and Health'; Thorne, B. (2011) 'The Problem with "Noise Numbers" for wind farm assessment' Bulletin of Science Technology & Society 31(4) 262-290. Suggest setback of up to 2400mm is required.
- Letter from Michael O'Donovan and Stephanie Larkin on behalf of Barna Wind Action Group:
    - Applicant's assessment of visual impact at odds with local community.
    - Applicant erroneously interprets the zoning of 'acceptable in principle' as wind farms being encouraged in these areas.
    - No satisfactory explanation for the proposed substation. Only valid reason why a larger substation is required is to facilitate other developments.
    - Currently appealing to the Data Protection Commissioner with respect to FOI and AIE requests to Eirgrid on the proposed substation. Ask that the Board allow further time to gather this information and present it to the Board.

- Counter the applicants statements with respect to there being no recreational activities at the site. Bride Valley Walking Group made a submission, 259 locals made submissions, many relating to recreation activity in the vicinity of the wind farm. Field surveys are too basic to capture this.
- Applicant's quoted evidence with respect to property valuations is not related to Ireland and is therefore irrelevant.
- Applicant's response does not address the inadequacy of the planning plan.
- Disagree that the application has gone through sufficient consultation. Local feedback was not reflected in the submission. Aarhus convention has not been complied with.
- Woefully inadequate bird surveys. Breeding snipe will be returning to the site. Spotted flycatchers, Snipe, Mallard, Reed Bunting, Stonechat, Kestrel, Long eared Owl, grasshopper Warbler, Buzzard, all either on site, adjacent or nearby, and not recorded in the EIS.
- Query bat roost data and demand to see records.
- The Irish environment is being seriously compromised by inadequate environmental impact assessment by relevant authorities.

8.3.27. Eleanor O'Leary:

- Concern regarding noise and particularly with respect to impact upon a daughter with a hearing impairment residing at the property. Notes a prohibition in the UK on onshore wind energy. States that proposals to address telecommunication impact is not acceptable. Reference by the applicant to UK study on property valuation is not sufficient and an Irish reference should be sought.

8.3.28. Further First and Third Party Submissions – subsequent to the Board's Direction of 24th September 2020

8.3.29. Following the decision of the High Court to quash the Board Order with respect to case files Ref. 248153 and Ref.248152 (as described in section 1 above), the Board invited further submissions under section 131 in October 2020.

8.3.30. Planning Authority:

- No further comments.

8.3.31. The Applicant:

- Request the Board Make an Order to Grant planning permission for the development.

8.3.32. Anthony Cohu (C.Arch, Ecological Planning, Landscape & Design)

- Invitation to make a submission is unduly narrow, referencing just one planning appeal case no.PL04.248153 and the high court judgement, should also include PL04.245824, which was also quashed.
- There were 258 submissions objecting to the original planning application to Cork County Council and this has not been considered by An Bord Pleanála in assessing the appeals. Reference to Para.7 of Art.6 UNECE (Aarhus) Convention with respect to public participation.
- Reference to case CEI-15-0032 Commissioner for Environmental Information with respect to disclosure of information, being a report commissioned by SEAI prepared by RPS Group in 2015, Section 3.5 'Acoustic Modelling Results' which sets out that the acoustic model for the candidate turbines were created with variations in turbine hub heights, terrain contours, ground factor and wind speed. The noise level for each combination was calculated in 100m intervals to a distance of 1km. Table 3.2 of the report shows that an estimated setback distance of 1209m would be necessary to meet the 40dB absolute noise limit proposed in the 2013 targeted draft revision of WEGD06. Several homes affected by the proposed wind farm are within this radius.
- Four and a half years have passed, during which conditions on the ground have changed, environmental regulations and processes have changed and wind energy development guidelines have been under critical review.
- The only options that remain in the interest of property public consultation are either:

  (i) Post a consolidated version encompassing all of the application and further information documentation on the An Bord Pleanála web site

and invite each of the persons who lodged submissions with Cork County Council in 2015 to make further submissions to the Board, or

(ii) Refuse permission for the proposed development outright, for some or all of the stated reasons for Refusal in my original submission, or,

(iii) Advise the Commercial High Court that An Bord Pleanála accepts the quashed decisions, but not the Referral to resurrect the case/s.

Anything less is to deny the public the right to proper participation.

Enclosures: Cork County Council Planner's Primary Report 19th February 2015; ABP Reports R245824 and R248153; and Decision of the Commissioner for Environmental Information on an appeal made under article 12(5) of the EC (Access to Information on the Environment) Regulations 2007 to 2014 (the AIE Regulations) Case CEI/15/0032.

8.3.33. Geraldine Hanley:

- Continuous humming noise from turbines. Swooshing noise so loud it is necessary to go inside.
- Bought the small farm holding in c.2005 for €450.000, however decided to sell because of the turbines and it went on the market for just €280.000. Interested potential vendors put off by the proximity of the turbines, so subsequently removed the property from the market.
- Can hear noise from the turbine all over the house.

  Photos enclosed of the property.

8.3.34. Jerome Cohalan:

- Proposed wind turbines should not be permitted as it will have a detrimental effect on residents living in the vicinity of the proposed development.
- Existing excessive noise from existing wind farm 1km away. Particularly bad at nighttime.
- Can't spend time outside because of the noise.
- Numerous complaints made to Cork County Council regarding shadow flicker and noise. The Council writes to the operator who confirms they are in

compliance with conditions, instead of commissioning their own acoustic expert to monitor compliance.

- If the proposal is approved, will be living in the middle of 10 wind turbines which will be too much to bear.

8.3.35. Barna Wind Action Group submitted by Noonan Linehan Carroll Coffey Solicitors on behalf of Denis Buckley and others:

- It is a matter for the Board to decide how to discharge its functions, and therefore take the invitation as an opportunity to make further submissions/observations.
- No Strategic Environmental Assessment means Board must refuse permission. Reference to A and Others v Gewestelijke stedenbouwkundige ambtenaar van het departement Ruimte Vlaanderen, afdeling Oost-Vlaanderen Case C-24/19 25 June 2020. The National Renewable Energy Action Plan, relied upon in the applicant's EIAR, was adopted without AEA and constitutes a 'plan and programme'. The same with respect to the Wind Energy Guidelines. Reference to Court of Justice case C-290/15 and Balz.
- The Environmental Impact information before the Board is wholly out of date and it is not open to ABP to complete an EIA in reliance on that information. Nor is it open to the Board to confine its assessment to one prescribed by the 2011 Directive.
- With reference to Balz (Balz and Heubach v An Bord Pleanala), the Boards exclusionary reliance on the 2006 Wind Energy Development Guidelines has no legal basis and no credible scientific underpinning.
- Reference to MAS report on draft Wind Energy Guidelines February 2020. A key flaw identified by MAS and understood in the acoustics profession is applying standards or conditions which assess noise by taking what is called an averaging approach which doesn't reflect reality.
- Reference to research article on topic of wind turbine noise disrupting sleep published by Oxford University Press in the Journal of the Sleep Society in March 2020 'A laboratory study on the effects of wind turbine noise on sleep: results of the polysomnographic WiTNES study'. This concluded that a single

night of wind turbine noise shortened REM sleep and that continuous environmental noise with AM may impact sleep.

- Scientific studies cannot replicate the conditions being experienced in reality in rural homes. Even thought courts are upholding complaints and awarding compensation, none of this can be regarded as evidence in the scientific research meaning of the word.
- The 2018 WHO Guidelines recognised for the first time that wind turbine noise can have harmful effects with recommended noise limitation.
- The Board should be applying the precautionary approach.
- The Board's past decisions have caused home abandonments.
- Enclosed: Response by BWAG to ABP letter of 13th Oct.2020:
    - With reference to participation and natural justice, due to the covid-19 pandemic and associated restrictions, the group is at a disadvantage as they cannot meet to discuss. Contrary to the regulations and Aarhus Convention
    - So much time has passed, so many requests for further information, so many submissions and observations by the company looking to develop this windfarm and substation, submissions by the public, submissions by ourselves and expert reports provided, query what exactly constitutes the appeal(s) and this should be defined and clarified by the Board.
    - The previous planning permission for 14 wind turbines on the site has expired and cannot be used as a lever by the applicant in documents associated with the application.
    - Cumulative impact visually, environmentally and on the communities, reference to developments at Carrigareik (246353 and 301563) and Shehymore (243486 and 246915). The Lee Valley has been transformed and project splitting is rife in the area that straddles Cork / Kerry. Currently a SID application under consideration with the Board ref.308173 for another windfarm.

- Do not believe that the developer has any intention of building the wind farm as currently proposed in the reactivated planning application. It is now out of date. Believe the developer will seek to amend the plans by increasing turbine height to a minimum of 178.5m. The applications should go back to the public for their say.
- Cork County Council cannot enforce the noise limits.
- Concern regarding the low set-back distances the developer has chosen to apply between homes and wind turbines.
- Noise modelling is academic as the turbine model used for noise modelling may not be developed and a higher turbine might be delivered on the site instead.
- Query what grid connection offer now exists at Barna in the context of permission for another substation at the Carrigareirk windfarm 246353 and 301563. Permission also exists for a 33kV cable between Carrigareirk, Shehymore and Barna.

Other Enclosures: MAS Environmental 'Ireland's Draft Wind Energy Development Guidelines 2019 Review of guidelines by Mike Stigwood' Feb.2020; Compliance report ref.13/00551 re.Shehymore windfarm and request for increased blade tip height; Oxford Sleep Research Society 'A labouratory study on the effects of wind turbine noise on sleep: results of polysomnographic WiTNES study' 2020; Copy of submissions and enclosed photos from Jerome Cohalan and Geraldine Hanley.

8.3.36. Further First and Third Party Submissions – subsequent to the Board's Direction of 12th February 2021 seeking Further Information, and the receipt of this information 10th March 2023 (subsequent to agreed submission timeframe extensions)

8.3.37. Following a review of the submissions set out above, a Board Direction was issued dated 12th February 2021, requesting further information from the applicant under Section 132 of the Planning and Development Act 2000 (as amended). The applicant sought an extension to the timeframe for the submission of this further information in April 2021, December 2022, and February 2023. The further information was received on 10th March 2023. The detail of the further information request is set out

in section 6 of this report above. The further information received on 10th March 2023 was circulated to all parties in January 2024, along with new public notices. Request was received to extend the timeframe for submission of observations on the further information received. A summary of submissions received relating to the further information received is set out below.

8.3.38. Jerome Cohalan and Geraldine Hanley:

- In light of the recent judgement by Justice Emily Egan 8th March 2024 Webster, Rollo, Shorten, Carty and Meenacloghspar Wind ltd, the information submitted by the applicant relating to noise cannot be relied upon.
- Current wind energy guidelines are outdated.
- Existing significant noise from existing nearby 4 turbines. Cumulative effect of proposed additional 6 turbines would be significant.
- Proposed development will significantly reduce the value of property nearby.
- The application is part of a larger project as it contains a 60MW substation, the 6 turbines will only generate 18MW, so obviously plans for further development. Project splitting.

8.3.39. Patrick O'Halloran and Elish Delaney:

- Currently experience noise pollution from existing 4 wind turbines nearby. The proposed turbines will add to the intolerable noise generated. Unable to keep windows open at night.
- Concerned regarding shadow flicker, especially during wintertime when the sun is lower in the sky.

8.3.40. Barna Wind Action Group:

- Note that request for a reasonable extension of time for the submission of observations on the further information was not answered.
- Acknowledge receipt from the Board boxes containing copies of the submitted material. However, this is incomplete and, in some cases, duplicated. The material is poorly bound and out of sequence, lacking indexing. Access to legible, complete, indexed physical copies is essential given the volume of material and the inclusion of extension large visual components. The

confused presentation underlines the practical impossibility of reviewing this material meaningfully, the time limit is oppressive and unjust and does not respect the right to participation.

- The Board has not dealt with the substance of previous submissions in decisions to date, rely instead upon conditions.
- With respect to the EIAR and noise, no reference is made to the most up to date relevant official UK report dated October 2022 and published February 2023. The review of ETSU commissioned by the UK Dept. of Business, Energy and Industrial Strategy entitled A Review of Noise Guidance from Onshore Wind Turbines, by WSP UK Ltd. The report supports the contention that Amplitude Modulation is a common and problematic source of nuisance from large wind turbines and so requires careful consideration and appropriate control by way of conditioning. Crucially, it shows the inadequacy of the approach taken by the developer in assessing and predicting noise impacts on nearby homes and places of work and recreation. This report is cited and referred to in the High Court Judgment of Egan J of 8th March 2024 in Webster, Rollo & Others v Meenacloghspar (Wind) Limited 2024 IEHC 136.
- In relation to the above referenced judgement (Webster), rely on the findings of the court. Particularly issues 6, 9 and 10 in pages 121-140, 150-155 and 155-158. Conditioning has been found to be inadequate for protecting the public from a breach of their personal and constitutional rights and from unlawful and intrusive interference with their homes amounting to common law nuisance. The applicant's submission does not take account of the judgement. The Board must address the characteristics of the WTN in its assessment. Refer to paragraphs 216-218 of the judgement in relation to the review of ETSU commissioned by the UK dept. of Business, Energy and Industrial Strategy referenced above, noting the need for official guidance on the control of AM in wind turbine sound.
- The applications should not be approved due to:
    - The absence of data necessary to enable the Board to complete an assessment of the project's impacts on the environment;

- Current scientific evidence on the incidence and nature of adverse impact of WTN noise on residential amenity in homes close to turbines, which findings are consistent with multiple first-hand reports such as those described to the Board and found to be credible and supported by ample expert evidence in the High Court Webster case.

- Request additional time to review the extensive material submitted.
- Enclosed letter from Denis Buckley raising the following:
  - Photomontages of the proposed wind turbines shows how enormous they are in relation to the sloping landscape. River Bride close by. Quiet area. Visible for miles. Proposal out of place. Noise will be audible because sound will bounce from side of the valley to other.
- Enclosed letter from Patrick Manning raising the following:
  - Exiting turbines in the area are very noisy. Proposed turbines will be even closer to home. Wishes of the local people should be respected.
- Enclosed comments from Stephanie Larkin and Michael O'Donovan raising the following:
  - Over 10 years since the original application was submitted. Multiple submissions and planning references.
  - The most recent set of documents state that the current application will replace the previously granted planning, this expired in 2017. There is no current granted planning permission for a wind farm on this site and the Board is free to refuse planning in this instance.
  - It took over 3 years for the further information to come consultation, the applicant got the bulk of this of this time, two years, the board got one year, the community got 1 month.
  - There are two planning applications, even if assessed together, amounts to project splitting.
  - Because the grid connection route is available the substation should be refused outright. There is no need for the intrusive development.

- 51 non-stakeholder houses identified in the vicinity of the operational noise study area, query how this was determined. The details go on to state that there are 113 homes within 1.5km of the site. Figure 9-1 is illegible. Cannot identify our home.
- Query if new background noise survey has been done including the 4 Garranereagh wind turbines. Confused as to how this information intersects with the previous information.
- On page 18 of Chapter 9 Noise, a background noise limit of 40dBD used instead of the recommended 35dBA, despite 61 houses being close proximity to the turbines. Can the Board clarify if the same background noise from 10 years ago is being relied upon.
- The applicant states that the noise limits affect the power output of a windfarm, thereby suggesting that the power output, and not health and safety, is the reason for the decision to select 40dBS as the background baseline for noise which is unacceptable.
- Refer to Webster judgement.
- Already experience wind turbine noise nuisance in the area.
- Page 5 Chapter 9, states that health affects of low frequency noise and infrasound have been scoped out.
- Page 42 Chapter 9, stats that no noise mitigation is proposed as the noise levels are determined by Garreneragh Windfarm. This is not acceptable.
- Previous documents gave a list of dwellings within 1km and details of noise at each location, and cumulative noise levels with the Garreneragh Windfarm. Cannot see this information in the recent document. Appendix 9.6 gives similar but the readings are totally different. Cannot determine the noise level at our property or if the readings are cumulative.
- Query the Boards view of stakeholder properties where noise limits are exceeded. Query the credibility that only noise limits are only exceeded at stakeholder or vacant properties.

- Query the difference between noise data in the current submission compared to previous documents, and why these are now lower.
- Adverse visual impact.
- Object to another industrial size object with respect to the Met Mast.
- Query the repositioning of turbines 5 and 6 which will be closest to our property. Cannot find basic information in the deluge of documents and short timeframe.
- Refer to Shropshire Ornithological Society Breeding Snipe Survey, with respect to best practice with regard to snipe surveying which the developer has failed to follow.
- Contend that the conclusions reached with respect to the absence of breeding snipe is inaccurate. Personally heard 3 drumming snipe and others in the distance from within the proposed development site and have audio/visual proof of this.
- Migratory route between The Gearagh SAC and The Bandon SAC and the coastal sites Courtnacsherry Bay SAC and The Galley Head and associated mudflats/wetlands etc. The proposed site lies directly between these areas and there is huge movement between these areas. Particularly, golden plover, snipe, curlew, whooper swan, wheater, teal. Query how the applicant can mitigate against the locating of six monster turbines directly in the path of Red Data listed migratory birds.
- Witnessed a drop in species number since the construction of the Garranereagh Wind Farm, especially kestrel and bat numbers.
- There are at least two discrete flocks of golden plover present throughout most of the winter in and around the site. Snipe are ubiquitous on the site throughout autumn/winter/spring.
- Surveys missed important species including curlew. Every chance the critically endangered Irish breeding population may be among the small discrete numbers present.

- The marsh and surrounding heathlands that abuts the river Bride on the southern part of the site is now subject to planning for Sitka spruce forestry by Dennis Buckley. This will materially effect the site and needs to be considered.

Enclosures:

1. Judgement of the High Court Egan J of 8th March 2024 in Webster, Rollo & Others v Meenacloghspar (Wind) Limited 2024 IEHC 136;

2. Map 1 – Names and Distances;

3. Map 2 – Fig.202 Existing Dwellings in Vicinity of Site.

4. Submission of Denis Buckley;

5. Submission of Patrick Manning.

6. Submission of Stephanie Larkin & Michael O'Donovan.

7. A Review of Noise Guidance from Onshore Wind Turbines WSP UK Ltd.

8.4. **Responses**

8.4.1. Responses received from the applicant to the grounds of appeal and with respect to third party submissions are set out above in sections 8.2 and 8.3.

9.0 **Assessment**

9.1.1. I have examined the file and the planning history, considered national and local planning policies and guidance, and inspected the site. I have assessed the proposed development including the extensive submissions on the appeal. The assessment of the development is divided into three main parts, the first being this section, a planning assessment, followed by an appropriate assessment and an environmental impact assessment.

9.1.2. In each assessment, where necessary, I refer to the issues raised by all parties to the Board in response to the appeal.

9.1.3. There is an inevitable overlap between the assessments, for example, with matters raised falling within both the planning assessment and the environmental impact

assessment. In the interest of brevity, matters are generally not repeated but rather cross-referencing is applied, and it is recommended that section 11 being the EIA in this report, is read in conjunction with this section, the planning assessment.

9.1.4. The Board's technical specialist in Ecology has also informed the Planning Assessment, Appropriate Assessment and the Environmental Impact Assessment carried out. The specialist report is included as Appendix 3 to this report (file reference 308210A & 308208A_App3).

9.2. With reference to the grounds of appeal, observations and other submissions on this appeal, including in response to further information, I consider the main issues of the appeal can be dealt with under the following headings:

- Principle of development;
- Impact upon amenity;
- Devaluation of property;
- Ecology;
- Material contravention; and
- Other matters.

9.3. **Principle of development**

9.3.1. I note submissions to the appeal which query the European and National approach with respect to wind energy development and the associated need for the proposal in this context, as well as requirements for Strategic Environment Assessment.

9.3.2. The Renewable Energy Directive and subsequent amendments set the targets for renewable energy generation across delegate states in Europe and consistently focus upon the growth of renewable energy generation, including onshore wind, in order to reduce reliance on fossil fuels. The importance of wind energy to domestic electricity generation in the State is outlined in the Climate Action Plan 2025. The growth of this sector is highlighted, with key electricity targets highlighted on page 70 of the plan, including a national target of 6GW for onshore wind, increasing to 9GW in 2030. The Climate Action Plan has been subject to Strategic Environmental Assessment Screening (SEA) which concluded that SEA is not required as SEA is

required for plans that establish a specific framework for detailed assessment related to development consents, and therefore the SEA screening concluded that it is not required for these high-level plans.

9.3.3. European and National policy supports increased onshore wind electricity generation in principle and associated grid connection. However, an assessment of the compatibility of the proposed development with local planning policy is required. Local planning policy is set out in the Cork County Development Plan 2022-2028 which has been subject to SEA.

9.3.4. The site is located in an area 'Acceptable in Principle' under the Wind Strategy Map in the Cork County Development Plan 2022-2028 which is defined in paragraph 13.6.6 of the Plan as follows: "These areas (River Ilen basin north of Skibbereen and an area south of Macroom) are an optimal location for wind farm development with minimal environmental impacts. They have viable wind speeds (>7.5m/s) and good proximity and access to the grid. These areas exclude urban areas and town green belts, avoid Natura 2000 Sites (SPAs and SACs), high value landscapes and Natural Heritage Areas (NHAs)."

9.3.5. Objective 'ET 13-6: Acceptable in Principle' under the Development Plan states that wind energy development is encouraged in these areas subject to protection of residential amenity particularly in respect of noise, shadow flicker, visual impact and the requirements of the Habitats, Birds, Water Framework, Floods and EIA Directives. An assessment of these amenity considerations is carried out further below in this assessment, with section 10 and 11 of this report considering AA and EIA, and appendices 1 and 2 also informing the assessment under the Habitats and Water Framework Directives. Other objectives under the Cork County Development Plan that support the provision of renewable energy, including onshore wind to assist in meeting renewable energy targets, include objectives 13-1 Energy, 13-2 Renewable Energy and ET 13-4: Wind Energy. In addition, Objective ET 13-21 Electricity Network supports the development of electricity transmission grid infrastructure connections to wind farms.

9.3.6. Therefore, European, national and local planning policy all support the provision of renewable energy development. However, while the principle of wind energy

development on the site is supported by local planning policy, this is subject to further consideration of amenity and environmental impact which I carry out below.

9.3.7. I note submissions which highlight that the previous planning consent for wind energy development on the site has expired and should not be relied upon as a precedent with respect to the assessment of the current appeal. In this regard I reference the planning history of the site set out in section 5 of this report above. Appeal reference ABP PL04.219620 from 2007 granted permission for 14 wind turbines on the site (105m blade tip height) and benefited from an extension of duration Cork County Council ref. 11/6605 to February 2017. The development was not implemented, and the consent is now expired. Since that time, a new County Development Plan has also been adopted. I can confirm that my assessment focusses upon relevant planning policy and submissions made to this appeal.

9.3.8. I note submissions to the appeal which state that the proposed substation should be considered under strategic infrastructure development legislation, which would entail a different development consent process. In response to this, the applicant has referred to a pre-application enquiry to the Board from 2014 ref. ABP VC0074 which concluded that the proposed development does not constitute strategic infrastructure. The Board directed that a planning application should be made in the first instance to Cork County Council and the applicant has therefore followed the directed procedure.

9.3.9. I note submissions outlining concern that the proposed project has been subject to project splitting as the project as a total is being processed under a number of different applications, thus impacting the assessment of environmental effects.

9.3.10. The submitted EIAR for the proposed development outlines the proposed works that make up the project overall. The proposed development assessed in this report is formed of two applications subject to related appeals, specifically:

- Proposed 6 no. turbine windfarm (ABP Reg. Ref. 308208-20);
- Proposed 110kV substation within the site of the proposed wind farm, (ABP Reg. Ref. 308210-20);

9.3.11. The submitted EIAR assesses the potential environmental effects of the proposed development as a whole, being formed of the above, as well as in consideration of in-combination effects, including the following:

- Enabling works for the Turbine Delivery Route (permitted under Cork County Council planning ref. 14/6803 on 22/05/2015 for 10 years and therefore expired this year);
- Potential alternative grid connection (AGCR) (permitted under Cork County Council planning ref. 15/730 and ABP Reg. Ref. PL 04.246353 on 28/10/2016 for 10 years and will expire next year).

9.3.12. I have set out an EIA of the proposed project (or development) which has been informed by the submitted EIAR, and I am satisfied that this has fully considered all relevant works for the purposes of assessing environmental effects. Section 11 of this report should be referred to in this regard. Whilst I note that planning permission for the turbine delivery route (if unimplemented) has since expired, these works still forms part of, and have been duly considered for the purposes of, the in-combination assessment and no alternative is outlined by the applicant.

9.4. **Impact upon amenity**

9.4.1. <u>Visual impact of proposed substation</u>

9.4.2. I note concern with respect of the scale of the proposed substation, with reference to its increased size and changed position compared to the former substation structure that was proposed for the site. Objective ET 13-6 under the Development Plan is relevant in this regard.

9.4.3. The proposed substation is illustrated in drawing numbers LE14-702-02-120 to 122 Rev A, and comprises 3 single storey buildings labelled control buildings A, B and C as described in section 3 of this report above. The substation compound is proposed to be situated to the middle and east of the proposed turbines within the agricultural field area for Barnadivane (Kneeves) and set back from the single lane track roads through the area. The closest residential properties are situated between approximately 200m to 300m away to the east and west of the substation compound, with the substation buildings themselves set within this wider compound area. Field

boundaries are marked by hedgerows which provide some screening to views through the area. Proposed hedgerow planting along embankments surrounding the substation compound boundary also form part of the proposal (page 35 Chapter 8, and Figures 3.1 and 3.2 Appendix 5.7 EIAR). The proposed buildings have maximum heights of between 6.2m and 6.5m, with associated infrastructure including 18m high steel lattice mast structures.

9.4.4. Section 11.18 of my EIA below sets out a landscape and visual impact assessment (LVIA) for the proposed development. With respect to the proposed substation, visual impact associated with this element will be localised, with the structure visible to a limited extent in the wider area due to its scale and surrounding vegetation. The limited height of the substation buildings will ensure that their visual impact is minimised, while the masts will be more visible in the locality. This type of electrical infrastructure has a typical appearance in context with associated infrastructure in the area, including existing pylons / turbines and proposed turbines, and will not appear incongruous in that context. While the setting within agricultural fields makes the substation somewhat distinctive, the setting is not a highly sensitive landscape character type, and the infrastructure will serve the associated wind energy development that will be beneficial with respect to reducing carbon emissions and responding to targets under climate action plans. Proposed hedgerow planting is illustrated in Figure 3.1 of Appendix 5.7 of the EIAR, while page 35 of Chapter 8 confirms that hedgerow planting is proposed to embankments surrounding the proposed substation. I am satisfied that the existing and proposed planting will reduce the visibility of the proposed substation, which in my view will not generate harmful visual amenity impact given the context of the area which includes existing electrical infrastructure. I also note submissions querying the need for a substation at the size proposed, and that the applicant addresses this in their response which I summarise at 8.2 above, and I accept the applicant's explanation in this regard.

9.4.5. <u>Visual impact of proposed wind farm</u>

9.4.6. I note concerns regarding the visual impact of the proposed turbines with reference to the sensitivity of the area from a landscape character perspective. Objective ET 13-6 under the Development Plan is relevant in this regard.

9.4.7. The Cork County Development Plan 2022-2028 identifies the site as being located in an 'Acceptable in Principle' area under the Wind Strategy Map. This means that wind renewable energy development will normally be acceptable in this location subject to assessment of specific matters, including visual impact. Objectives GI 14-9, GI 14-13: Scenic Routes and GI 14-14: Development on Scenic Routes are of relevance to this assessment and seek to protect the visual quality of the landscape from inappropriate development. The site is not situated in an area recognised as a 'High Value Landscape' and does not traverse scenic routes as detailed under maps for the Development Plan. There are however scenic routes in the wider area from which the proposed turbines will be visible from, and these have been specifically considered as part of the LVIA below.

9.4.8. A landscape and visual impact assessment (LVIA) of the proposed wind farm is described in section 11.18 of my EIA below with reference to the submitted photomontages for the application. This demonstrates the visual prominence of the proposed wind turbines in the surrounding area, which varies in wider views depending upon distance, typography and vegetation. During my visit to the site, it was evident that the area is already characterised by wind farms which appear in both the immediate and wider setting of the subject site. In addition, there are examples of electricity infrastructure, such as pylons, lining the roads and fields for the area.

9.4.9. The subject site is not located in a high value landscape character area as defined under the development plan. While the proposed turbines will be visible in wider views and from wider areas with a high value or scenic route categorisation, it would not appear incongruous in these views given the established context for the area which includes similar energy infrastructure. It is evident from the third-party submissions on the application (including appeal grounds) that the landscape for the subject site is highly valued by those local to the area, and I accept that the proposed turbines will represent a significant change in localised views. However, I am satisfied that this impact would not be negative with reference to objectives under the development plan, and that the turbines would quickly become an established feature in the landscape.

9.4.10. <u>Noise and shadow flicker</u>

9.4.11. Third parties have raised extensive concern regarding adverse amenity impacts that could result from the proposed development with respect to noise and shadow flicker. Particularly in relation to noise, as part of this I note the submission of a report from Dick Bowdler Acoustic Consultant and I address this below. This section of my report should also be read in conjunction with section 11.14 with respect to EIA below, which focuses on technical aspects of potential impacts, while here I address points raised in submissions in more detail.

9.4.12. I note that objective ET 13-6: Acceptable in Principle under the Development Plan, states that wind energy development will normally be encouraged in these areas identified under the wind strategy map, and including the location of the site, subject to assessment of specific amenity criteria including noise and shadow flicker.

9.4.13. With reference to the report from Dick Bowdler Acoustic Consultant and the statements relating to blade swish and the inclusion of AM limits, the EIAR addresses amplitude modulation (AM a.k.a 'blade swish') from section 9.2.2.1 in Chapter 9. A comprehensive explanation of what creates AM is set out alongside relevant policy and guidance with respect to the same. It is stated in the EIAR that:

'At present there is no method for predicting OAM* at any particular location before turbines begin operation based on the general features of a site or the known attributes of a particular turbine. Therefore, it is not possible to predict an occurrence of AM at the planning stage. It should also be noted that it is a rare event associated with a limited number of wind farms. While it can occur, it is the exception rather than the rule. The RenewableUK study states that "even on those limited sites where it has been reported, its frequency of occurrence appears to be at best infrequent and intermittent.", and "There is nothing at the planning stage that can presently be used to indicate a positive likelihood of OAM occurring at any given proposed wind farm site, based either on the site's general characteristics or on the known characteristics of the wind turbines to be installed."'

*Other AM or OAM.

9.4.14. The applicant's EIAR refers to this matter further on page 4 of Chapter 9, with reference to the assessment of AM and publication by the Institute of Acoustics (IOA) Noise Working Group (Wind Turbine Noise) Amplitude Modulation Working

Group (AMWG), which concluded that current practice at that time not to assign a planning condition to deal with AM. The EIAR goes on to state the following (page 4):

"Where it occurs, AM is typically an intermittent occurrence, therefore assessment may involve long-term measurements. The 'Reference Method' for measuring AM outlined in the IOA AMWG document will provide a robust and reliable indicator of AM and yield important information on the frequency and duration of occurrence, which can be used to evaluate different operational conditions which will be implemented to avoid the occurrence."

9.4.15. It is also stated in section 9.2.2.1 (page 3 of Chapter 9) that:

"If OAM occurs from the Proposed Development, the wind turbine(s) will be operated in a manner to address this by way of implementation of blade pitch regulation, vortex generators or shut downs."

9.4.16. I note reference by the appellants to the WSP report A Review of Noise Guidance from Onshore Wind Turbines in the UK. This gives recognition that AM noise from wind turbines can give rise to annoyance, and also recognises the difficulties in accurately predicting AM, noting that further research is required to measure and quantify AM in order to inform robust planning conditions around the same. Due to these difficulties in predicting and establishing acceptable limits for AM, as well as the absence of adopted guidance regarding the same, it is not current practice (at the time of writing this report) to include conditions to limit AM levels. However, a requirement that the Noise Compliance Monitoring Programme include a methodology for measuring and monitoring is included in my suggested conditions for the windfarm below (condition no.7). Monitoring of noise from the wind turbines would include AM, and with reference to the applicant's own EIAR as extracted above, measures to resolve OAM are outlined. Therefore, in the context of current understanding around this issue, I am satisfied that the EIAR has addressed this matter and the proposed condition below will ensure appropriate monitoring as part of this.

9.4.17. In relation to the location of monitor receptor location H48, the EIAR describes noise monitoring locations in table 9-3 and states that:

'This location is south west of the Proposed Development. The noise monitoring location was in a field to the rear of the property approximately 10m from the rear

façade of the property. The noise monitoring location was chosen to have a line of sight to the Proposed Development. The amenity area at the property is south of the house.'

9.4.18. The EIAR also includes Appendix 9.5 'Valley Correction' which demonstrates either no or insignificant variations to results in this regard.

9.4.19. In relation to operational noise section 9.3.3.2 of the EIAR outlines the criteria applied with respect to operational noise arising from the wind farm. This refers to the 2006 wind energy development guidelines, as well as ETSU-R-97 and detailed guidance contained in the Institute of Acoustics 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (May 2013).

9.4.20. The 2006 guidelines state a general fixed limit of 45dB(A) or a maximum increase of 5dB(A) above background noise at noise sensitive locations. In very quiet areas, where the background noise is less than 30dB(A), daytime level of the $L_{A90,10min}$ is recommended to be limited to a range of 35-40dB(A) (page 30 of the guidelines). With reference to the above-mentioned guidance, there is no absolute level identified within this range and application of ETSU-R-97 and associated guidance has therefore been relied upon. I am satisfied that the methodology applied is sound and in accordance with current practice at the time of writing this report. With respect to operational noise limits, I have included a condition for the proposed wind farm (condition no.7) that will restrict these in accordance with current practice.

9.4.21. The noise modelling set out in the EIAR has been undertaken with review of the worst case scenario, assuming short-term downwind conditions, however in reality, when wind is blowing in the opposite direction noise levels will be lower. The modelling also includes existing noise generated by the Garranereagh wind farm. The predicted noise levels from the proposed wind farm are below the daytime and night-time noise levels at all locations, except at H36, H34 and H28. Stakeholder properties are referred to in the EIAR section 9.5.5.2 and include H34 and H36. H28 is a stakeholder of the Garreneragh windfarm. At H36 the exceedance is not significant (0.5dB daytime, 1.8 to 2.5dB nighttime). Similarly, the exceedance at H34 is not significant 1.5dB over the night time limit, daytime limit met. The exceedance

at H28 is as a result of the Garreneragh windfarm. As modelling is of the worst case scenario, noise levels in reality would likely be less than that set out in the EIAR.

9.4.22. In the event that the Board determine to grant planning permission, a condition can be included to limit operational noise from the proposed wind turbines to acceptable parameters. A suggested condition regarding the same is included in section 15 below.

9.4.23. In relation to shadow flicker, designed-in mitigation includes measures to prevent impact from shadow flicker, with no significant negative residual impact resulting. The EIAR specifically addresses shadow flicker with a mitigation strategy outlined to ensure impact is within acceptable parameters.

9.4.24. Section 11.14 and 11.11 of this report below includes further consideration of noise and shadow flicker.

9.4.25. Construction impacts

9.4.26. Third parties raise concern regarding construction stage adverse amenity impacts, including concern regarding the 10-year consent requested by the applicant.

9.4.27. The EIAR includes in appendix 2.2 a Construction Environmental Management Plan. This outlines mitigation to manage, control and reduce construction stage effects upon the environment and surrounding sensitive receptors including local residents. Measures include management of dust, noise, surface water, waste and traffic. With respect to haul routes along local roads, information signs will be erected in advance of construction/transportation works, with a flyer drop to households and contact details for a Liaison Officer with whom concerns can be raised. A surface water management plan for the project is also included in appendix 7.3 of the EIAR and contains the methodology for drainage, water quality management and silt control. Measures are outlined with respect to slope stability, including an emergency response plan. Predicted noise during construction is within relevant noise limits and additional mitigation is also outlined to minimise potential impact, including consultation with the local community and works carried out in accordance with BS 5228:2009+A1:2014. Measures to manage dust generation and control dust are also described and include the spraying down of work areas/roads, wheel washing and re-vegetation of earthworks as soon as possible.

9.4.28. Construction stage impacts are an inevitable consequence of development projects and can be effectively managed and controlled. Section 11 of this report considers construction stage impacts with respect to EIA. I am satisfied that the proposed development includes mitigation as described in the submitted EIAR and particularly appendix 2.2 and the Construction Environmental Management Plan, that will ensure that there will be no sustained significant negative effects. Construction impact will be temporary and is justified in my view given the wider benefits that would result from this development, specifically the resulting contribution to the renewable energy network.

9.4.29. In relation to the 10-year period sort for the planning consent, this is in reflection of the complexity of the project which involves connections to electrical infrastructure and to the grid. The need for flexibility in this regard is legitimate and recognised with respect to the planning permission process. As such, I am satisfied that a 10-year consent is justified given the particulars of the proposed development.

9.5. **Devaluation of property**

9.5.1. I note the inclusion with submissions, letters and certificates of current market value, from KMS Auctioneers, to support the assertion that the proposed development would lead to a negative impact upon the value of properties at Ashmore House, Gurranreight and Moneygave. It is stated that studies have shown that fear of wind farms can negatively affect purchase prices and that if the wind farm is developed it will have ‘a significant negative factor in the marketability, attractiveness and ultimately the achievable sale price of the property.’ A working paper on the ‘Impact of wind farms on property values’ is also enclosed with a submission from NLCC Solicitors.

9.5.2. The applicant’s response to this matter references studies ‘The effect of wind farms on house prices’ Renewable UK and ‘The impact of wind power projects on residential property values in the US: A multi-site hedonic analysis’ by Hoen et al, to support their assertion that wind farms do not devalue residential property.

9.5.3. From the evidence submitted by the opposing parties, it is clear, in my view, that there is inconsistency with respect to the findings of studies on this topic, and it cannot be stated with certainty with reference to such studies, what the impact would

be upon properties in the locality of this particular site. While the KMS Auctioneers enclosure provides current valuations of specific properties, the statements made with respect to the impact upon property value generated by wind farm is more generalised in nature. The enclosure states that 'we are not in a position to comment on what effort [sic] the proposed Wind Farm will have on the market value' of the properties, other than stipulating that it will have a 'significant negative' effect.

9.5.4. The context of the site is an important factor in considering this matter in my view, being the established landscape setting which already features wind farms, particularly the most proximate Garranereagh windfarm, as well as other electrical infrastructure such as pylons and overhead cables. In this context, I do not consider that the proposed development is likely to have an overriding impact upon the valuation of nearby properties, over and above any other existing wind farm or indeed other electrical infrastructure which is visually evident in the area. This context was evident during my visit to the site and is also demonstrated by the visual impact assessment set out in my EIA below, which identifies wind farms and other electrical infrastructure as established features in the landscape character of the area. I also refer to the overall assessment set out in this report, together with the environmental and amenity considerations which have informed this assessment, and the conclusion that there will not be any significant harmful impact upon adjacent occupiers. Overall, it has not been demonstrated with certainty, that the presence of the proposed wind turbines will directly result in an attributable depreciation of property value in the vicinity.

9.6. **Ecology**

9.6.1. I note concerns raised in relation to potential impact upon the ecology of the area as a result of the proposed development. Objectives under the Development Plan are also relevant in this regard, including Objectives ET 13-6, BE 15-1, BE 15-2 and BE 15-6, which seek to protect and enhance biodiversity, including designated sites.

9.6.2. I refer to section 10 of this report which sets out an Appropriate Assessment of the proposed development and section 11.12 which addresses biodiversity impact with respect to EIA considerations. Overall, I am satisfied that the proposed development conforms with these objectives under the Development Plan.

9.7. Material contravention

9.7.1. I note the submission by Anthony Cohu which states that the proposed development is in material contravention to objectives under the County Development Plan, specifically in relation to Energy Networks and Infrastructure, Renewable Energy, Wind Energy Projects, and Heritage and Environment, as the site is adjacent to a High Value Landscape Area and visible from designated Scenic Routes.

9.7.2. At the time that this submission was written, the former County Development Plan was in place, however I will address this submission with reference to current objectives under the Cork County Development Plan 2022-2028 which I reference below.

9.7.3. In relation to Objective ET 13-2 Renewable Energy, this relates to supporting and promoting renewable energy. The proposal is not in material contravention to this policy and conforms with its provisions with respect to developing renewable wind energy infrastructure on the site.

9.7.4. In relation to Objective ET 13-4 Wind Energy, this relates to facilitating renewable energy production in line with the Wind Energy Strategy and objectives detailed in this chapter and other objectives of this plan in relation to climate change, biodiversity, landscape, heritage, water management and environment etc. This report has described above how the proposed development conforms with the Wind Energy Strategy for the site, and sections 10 and 11 of this report consider potential effects upon the environment. The proposed development does not materially contravene this objective under the plan. The proposal also conforms with objective ET 13-5: Wind Energy Projects, being located in an 'Acceptable in Principle' area and following a plan led approach to the location of wind energy development.

9.7.5. In relation to Objective ET 13-22 Transmission Network, section 10 of this report sets out an AA of the proposed development and section 11 includes a LVIA of the proposed development. The proposal does not materially contravene this objective.

9.7.6. In relation to Objective BE 15-6: Biodiversity and New Development, this relates to the consideration of biodiversity in new development. Section 11.12 of this report assesses potential impact upon biodiversity with respect to EIA and section 10 sets

out an AA. The proposal does not materially contravene this objective and submitted surveys are comprehensive with respect to ecology.

9.7.7. In relation to Objective GI 14-9: Landscape, section 11.18 of this report sets out a LVIA for the proposed development and section 9.4 above considers visual amenity. The proposed development is compatible with the existing context for the area and is not in material contravention to this objective. While the proposal will be prominent in wider views and from scenic or high landscape value areas, this impact is acceptable with reference to the existing character of the area. In addition, I note that Objective GI 14-11: Draft Landscape Strategy, Land Use Plans and Policy Guidance, states that '….whilst advocating the protection of such scenic resources the Plan also recognises the fact that all landscapes are living and changing, and therefore in principle it is not proposed that this should give rise to the prohibition of development along these routes, but development, where permitted, should not hinder or obstruct these views and prospects and should be designed and located to minimise their impact. This principle will encourage appropriate landscaping and screen planting of developments along scenic routes.' The proposed wind turbines are slender and visible at intermittent points from the surrounding area, views from scenic routes will not be obscured. The proposal is not in material contravention to these objectives.

9.7.8. In relation to Objectives GI 14-12: General Views and Prospects, GI 14-13: Scenic Routes and 14-14: Development on Scenic Routes, the LVIA set out in section 11.18 gives full consideration to visual impact with respect to views and scenic routes in the surrounding area. The proposal is not in material contravention to these objectives.

9.7.9. Overall, I am satisfied that the proposed development conforms with relevant policies and objectives under the development plan as demonstrated in the assessment set out in this report above and in sections 10 and 11 below.

9.8. **Other matters**

9.8.1. The submissions and grounds of appeal for the applications raise numerous and varied matters in relation to the potential effects of the proposed development. I have sought to address those most frequently raised and of primary relevance to the assessment of the proposed development in my planning assessment above in this

section of my report, as well as in my AA in section 10 and EIA in section 11 below in this report. Here I will briefly address other matters raised.

9.8.2. Flood risk

9.8.3. I note concern with respect to whether the proposed development will exacerbate flood risk.

9.8.4. The EIAR addresses flood risk in chapter 7 and section 7.5. The site is not located in an area with existing High, Medium or Low probability of fluvial flooding and is not at risk of fluvial flooding. The steep typography of the site also makes it unlikely for there to be fluvial flooding associated with watercourses in the site, even those that may not have been modelled for the flood risk maps used to undertake the assessment of the site. The Geological Survey Ireland Groundwater Flooding Probability Maps show the site as not being located in an area with increased groundwater flooding. The site is not located within areas of Flood Zone A, B or C and there will be no impact on flood plain storage or fluvial flood flow routes as a result of the Proposed Development. While the proposed development will increase the extent of impermeable area on the site, in consideration of the vast majority of the site which will remain in agricultural use and formed of permeable land, this impact will be minimal overall. However, the submitted EIAR recognises that climate change could impact on the risk of flooding, and mitigation is included to ensure that risk of fluvial flooding and surface water flooding to downstream areas is not increased, including construction materials that will allow for infiltration, and implementation of a surface water management system.

9.8.5. I am satisfied that there is no significant flood risk to the site or surrounding areas as a result of the proposed development.

9.8.6. Public reaction

9.8.7. I note that submissions stress the degree of public dissatisfaction with the proposed development and that this has been evidenced through the degree of objection received to the original planning applications to the Council.

9.8.8. The assessment of these appeals is guided through the application of planning policy as set out in section 7 of this report and with particular reference to local planning policies under the Cork County Development Plan, which also allowed for

engagement during its preparation through public consultation. Submissions have also guided my assessment with respect to areas of concern which have been identified throughout this report. I have addressed these areas of concern and formed a conclusion with respect to any likely negative effects upon the locality surrounding the site. This report also sets out an AA and EIA to determine any significant adverse effects upon the environment.

9.8.9. The proposed development is located in a site that is considered permitted in principle for renewable wind energy development subject to an assessment of amenity and environmental effects. Overall, I am satisfied that the proposed development will not result in significant negative effects with reference to the relevant planning policies, NIS and EIAR that have informed my assessment.

9.8.10. Land alteration

9.8.11. I note submissions stating that there has been alteration to the land at the site with related consequences upon the environmental assessment for the proposed development. During my visit to the site I did not note any works being carried out or clear indication of land alteration, although I don't doubt the sincerity of the concerns raised in submissions. My assessment is of the site in its current condition as depicted in the EIAR for the proposed development. If works have been carried out on the site that would have required consent, that would be a matter for the local planning authority as the body responsible for enforcement matters in the first instance. I am satisfied that the submitted reports and surveys for the proposed development are an accurate reflection of the current condition of the site. If land alteration has taken place, I am satisfied that this is not so significant that it would impact the findings of my assessment.

9.8.12. Landowner consents

9.8.13. I note submissions querying whether the necessary landowner consents have been obtained by the applicant. I am satisfied that the application has set out necessary consents for validation purposes. In any case, in the event that planning permission were granted, this would not circumvent other legal requirements over land, and a planning consent does not entitle third parties to undertake works over land not in their ownership.

9.8.14. Requests for further time

9.8.15. I note the requests for additional time from parties to the appeal. While I appreciate there is a significant volume of material that was submitted as part of the further information request, the matters at primary issue for this appeal have been well established for some time and in my view, parties are very familiar with the proposed development in this regard. That is demonstrated by the extensive and comprehensive submissions that have been received to date. In relation to comments that copies of the further information provided by the Board to the appellant were incomplete or duplicated, I note that the EIAR was published on the Board's website and was fully accessible online and the further information was available for public inspection at the Board's office. The Board has complied with relevant legislative requirements in relation to the circulation of material and associated timeframes for submissions. I am satisfied that I have a good understanding of the areas that the appeals are focused upon, and this report has sort to identify these matters, and address them throughout the assessment in both this section and subsequent sections of the report.

10.0 **Appropriate Assessment**

10.1. This section of the report considers the likely significant effects of the proposal on Natura 2000 European sites with each of the potential significant effects assessed in respect of each of the European sites considered to be at risk and the significance of same. The assessment is based on the submitted Natura Impact Statement which includes an Appropriate Assessment Screening, included in Appendix 5.6 of the submitted EIAR. It should be noted that the submitted report assess the development as a whole, comprising both the proposed wind turbines and substation, as well as the proposed biodiversity enhancement and management plan for the development (proposed as part of the development and not as mitigation or compensation), and all associated works, including turbine delivery / haul route and decommissioning works.

10.2. I have had regard to submissions in relation to the potential impacts on European sites, as part of the Natura 2000 Network of sites. I also refer to the Boards specialist Ecologist report at Appendix 3 of this report which should be read in conjunction with this section of my report and has informed my assessment.

10.3. **Stage 1 Screening for Appropriate Assessment**

10.4. Appendix 1 attached to this report sets out a detailed screening for AA and should be read in conjunction with this section of my report. I also refer the Board to Appendix 3 and the Specialist Ecology report which has informed my assessment. Below is the screening determination.

10.5. AA Screening Conclusion

10.6. In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in this AA screening, I conclude that it is not possible to exclude that the proposed development, alone or in combination with other plans and projects will give rise to significant effects on the Gearagh SPA European Site in view of the site's conservation objectives. Appropriate Assessment is required.

10.7. This determination is based on:

(i) Potential for removal of ex-situ habitat for mobile SCI species of the SPA, Coot and Mallard during construction phase.

(ii) Potential habitat loss, displacement of species, bird collisions, groundwater changes, and water quality impact, occurring during construction of the proposed development, operational activities and decommissioning works, impacting ex-situ SCI species Coot and Mallard.

(iii) Potential for noise impact and associated disturbance effecting mobile SCI species Coot and Mallard, which are vulnerable to noise if in ex-situ foraging habitat within 500m of the proposed development site.

(iv) Potential for in-combination effects at all phases, if activities on the site are undertaken in parallel with off-site activities.

10.8. The potential impacts are expanded upon in further detail as part of a Stage 2 Appropriate Assessment below.

10.9. In relation to the remaining European sites considered, taking into consideration the distance between the proposed development site to these designated European sites, the lack of a direct hydrological pathway with the potential to facilitate significant effect, and/or dilution and dispersal effects, as well as the lack of any

other pathway or link to these European sites, it is reasonable to conclude that on the basis of the information on file, which I consider adequate in order to issue a screening determination, that the construction and operation of the proposed development, individually or in combination with other plans or projects, would not be likely to have an adverse effect on the conservation objectives or features of interest of The Gearagh SAC; Bandon River SAC; Mullaghanish Bog SAC; Cork Harbour SPA; and Great Island Channel SAC;. Therefore, I agree with the applicant's submitted screening report that a Stage 2 Appropriate Assessment is not required with respect to these aforementioned European sites.

10.10. With respect to the Cork Harbour SPA, it should be noted that I have examined the Natura 2000 data forms as relevant, and the conservation objectives supporting documents for these sites, available through the NPWS website (www.npws.ie). During this examination and assessment, I noted that there are two additional species of bird listed as qualifying interests in Schedule 3 of SI 391/2021 – European Union Conservation of Wild Birds (Cork Harbour Special Protection Area 004030) Regulations 2021. The two additional species are Mallard (*Anas platyrhynchos*) and Greenshank (*Tringa nebularia*) as noted above in my assessment. I am satisfied that the potential significant effects from the proposed development are the same for these two bird species as for the other waterbirds listed as qualifying interests and the same screening conclusions apply. I consider that the conservation objectives for both the Mallard and the Greenshank would be 'to maintain the favourable conservation condition of' both species. I am satisfied that my conclusions remain unchanged and as set out above with respect to the AA Screening of the proposed development. I continue my Appropriate Assessment with respect to the Gearagh SPA below.

10.11. **Stage 2 – Appropriate Assessment**

10.12. The submitted NIS identifies the potential for negative effects upon the Gearagh SPA as a result of the proposed development and I concur that an Appropriate Assessment (AA) of the proposed development is required with respect to this aforementioned European site.

10.13. Appendix 2 of this report and specialist Ecologist report for the Board at Appendix 3 set out the detailed consideration of potential effects upon European sites as part of an Appropriate Assessment for this proposed development. The site-specific conservation objectives and species of conservation interest for the Gearagh SPA is set out in Appendix 1 and 2. The AA determination is set out below.

10.14. AA determination – Conclusion

10.15. The proposed development has been considered in light of the assessment requirements of Sections 177U and 177V of the Planning and Development Act 2000 as amended.

10.16. In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Gearagh SPA in view of the conservation objectives of that site and that Appropriate Assessment was required.

10.17. Following an examination, analysis and evaluation of the NIS all associated material submitted including the further information with EIAR, and taking into account observations, I consider that adverse effects on site integrity of the Gearagh SPA can be excluded in view of the conservation objectives of that site and that no reasonable scientific doubt remains as to the absence of such effects.

10.18. My conclusion is based on the following: The proposed development will not undermine or delay the conservation objective to restore the favourable conservation condition for Mallard or Coot, special conservation interest species for the Gearagh SPA or any other species for which the site is designated.

11.0 Environmental Impact Assessment

11.1. This section sets out an Environmental Impact Assessment (EIA) of the proposed project and should be read in conjunction with the planning and appropriate assessment sections of my report. In response to the Boards Further Information Request as outlined in section 6 of this report above, the original Environment Impact Statement (EIS) prepared by the applicant and submitted with the appeals, has been updated to an Environmental Impact Assessment Report (EIAR). This is in reflection of the High Court remittals of the appeals to the Board, and the subsequent

extent of time that has passed since the preparation and submission of the original EIS. The EIAR reflects the most up to date guidance and legislation for EIA, and considers both the proposed wind farm and substation, which while submitted as individual planning applications to Cork County Council and appeals to An Bord Pleanála, will be considered at the same time by the Board and are assessed concurrently within this report.

11.2. The Proposed Project for EIA purposes is made up of the proposed development as follows:

1. Proposed 6 no. turbine windfarm (ABP Reg. Ref. 308208-20);

2. Proposed 110kV substation within the site of the proposed wind farm, (ABP Reg. Ref. 308210-20);

11.3. In addition, the in-combination effects of the following elements of the Proposed Project are include in the assessment.

3. Enabling works for the Turbine Delivery Route (permitted under Cork County Council planning ref. 14/6803 on 22/05/2015 for 10 years and therefore expired this year);

4. Potential alternative grid connection (AGCR) (permitted under Cork County Council planning ref. 15/730 and ABP Reg. Ref. PL 04.246353 on 28/10/2016 for 10 years and will expire next year).

11.4. A description of the proposed wind farm development, including substation, is set out in section 3 of this report above.

11.5. The Planning and Development Regulations 2001, Schedule 5, part 2 sets out relevant thresholds for types of development that would trigger a mandatory requirement for EIA and submission of an EIAR (Environmental Impact Assessment Report). The proposed development forms a renewable energy development (windfarm project) including provision of 6 turbines with an estimated Export Capacity (MEC) of up to 25MW, amounting to 76,650MWh (megawatt hours) of electricity per year. The project also includes an electrical substation, as well as associated enabling works and grid connections. The project falls within a class of development in Schedule 5, Part 2 (3) (i) wind farms with more than 6 turbines or

having a total output of greater than 5 megawatts and accordingly an EIA is required for the proposed development.

11.6. Where topics and issues raised in submissions concern environmentally related matters have already been addressed in the wider planning assessment described above, I have cross-referenced between sections to avoid unnecessary repetition. It should also be noted that the proposed wind farm project includes two planning applications / appeals. Therefore, while the proposal is considered as a single project for EIA purposes, it is submitted under two application / appeal references, and the EIA contained in this report relates to both appeals, being a single project overall.

11.7. **Compliance with the Requirements of Article 94 and Schedule 6 of the Planning Regulations**

11.8. In the proceeding table, I assess compliance of the EIAR submitted with the requirements of the Directive 2011/92/EU (The EIA Directive) as amended by Directive 2014/52/EU as implemented by Article 94 and Schedule 6 (paragraphs 1 and 2) of the Planning Regulations as amended. I also confirm that I have carried out my assessment by reference to the factors set out in Article 3 of the EIA Directive as amended by the 2014 Directive and provided a reasoned conclusion.

A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development, including the additional information referred to under section 94(b).
A description of the proposed development is contained in Chapter 2 of the EIAR and has been summarised above in this section of my report as well as in section 3. I am satisfied that the development description provided is adequate.
A description of the likely significant effects on the environment of the proposed development, including the additional information referred to under section 94(b).
As is required under Article 3(1) of the 2011 Directive as amended, the EIAR describes and assesses the direct and indirect significant effects of the project on the following factors: (a) population and human health; (b) biodiversity with particular attention to the species and habitats protected under Directive

92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape. It also considers the interaction between the factors referred to in points (a) to (d).
A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development, including the additional information referred to under section 94(b).
The EIAR includes designed in or embedded mitigation measures and measures to address potential adverse effects identified in technical studies. These measures are summarised as part of my assessment of each topic area below.
A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment, including the additional information referred to under section 94(b).
Chapter 2 ‘Description of the Proposed Development’ includes in section 2.8 ‘Alternatives and Site Suitability’. This sets out the main reasons for the selection of the proposed development site. The EIAR states that the principal consideration relates to a previous planning approval on the site for a wind farm under planning reference 05/5907 extended under ref.11/06605 (Cork County Council), and which has since expired. The EIAR outlines that the consideration of alternatives or site selection was undertaken in that original application, and that the planning authority accepted the principle of wind energy development on the site. For that reason, alternative sites have not been considered in the application. The ‘do nothing’ scenario is considered in the EIAR, and it is concluded that this would comprise reliance on fossil fuel power stations as the primary alternative, contributing to greenhouse gas and other emissions, and hindering Ireland’s commitment to meeting targets to increase electricity production from renewable sources. The EIAR goes on to consider other aspects of the project, and states that with respect to the turbine delivery routes, the proposed route is the only viable delivery

route from the n22. In relation to the grid connection, two other alternative connections are considered; 1. 110kV substation loop in loop out to existing 10kV overhead lines; and 2. Tail fed underground grid connection utilising a permitted cable route connecting to the permitted Carrigarierk Windfarm.

The EIA Directive Annex IV(2) as amended, requires an EIAR to contain:

'A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.'

Section 3.4 of the EPA's "Guidelines on the Information to be contained in Environmental Impact Assessment Reports" (March 2022) gives further explanation of how the consideration of alternatives should be addressed in an EIAR. This includes recognition of inherent environmental sensitivities in site selection and that there may be circumstances where there is no relevant alternative location, with higher level alternatives potentially already addressed during the preparation of other plans or strategies.

I note that the appellants assert that the EIAR should have included a more comprehensive consideration of alternative locations, as the previous planning approval on the site for a wind farm has now expired. In my view, greater examination of alternatives could have been undertaken given the length of time that has passed since the historical consent on the site and noting that this has since expired, as well as in light of updated legislation, and national and local policy in the intervening period. However, it is also important to consider that the development plan has undertaken a strategic overview of general locations for wind farm development in the county and that the site is situated in an area 'Acceptable in Principle'.

Section 13.6.3 'Wind Energy Strategy' of the Development Plan explains that based upon the 2006 Guidelines, the methodology for determining the approach to wind energy included "a sieve mapping analysis of the key environmental, landscape, technical and economic criteria to identify the most suitable location for wind energy development." Cork County Council's Strategy, included

consideration of the approach taken by other adjoining Local Authorities; the location of all existing and proposed wind energy developments and their cumulative impacts; the pattern of population distribution, so that the main centres of population can be avoided; accessibility to the electricity distribution grid; important or high value landscapes; nature conservations sites and in particular Natura 2000 sites (SPA and SAC); the Water Framework Directive and River Basin Management Plans for the County, so that impacts on the rivers, lakes and other waterbodies of the County could be avoided; and the Sustainable Energy Ireland (SEI) Wind Atlas, 2003 was utilised to identify areas with viable wind speeds.

In relation to alternative layouts, the EIAR outlines that the historical consent on the site was for 14 turbines, which is now proposed to be reduced due to development in turbine technology. The EIAR states that a constraint assessment was carried out based upon environmental and landowner constraints, to inform layout selection, with the number of turbines ultimately reducing to 6 (ref. page 39 Chp.2 and Appendix 2.1 Vol.3 EIAR).

In relation to the alternative grid connections identified in the EIAR, the first is the proposed approach under the application for the substation. The second is the alternative grid connection (AGCR) that is permitted under Ref. 15/730 and ABP Reg. Ref. PL 04.246353 and is included in the assessment of cumulative impacts potentially arising from the project and as described in an earlier section of this EIA above. These are therefore not strictly 'alternatives' for the purposes of EIA in my view. The first being the proposed approach and the second being a back-up position which is included in the EIAR assessment of potential cumulative impacts in any case. Neither are alternatives that have been discounted in favour of a selected option. In both cases, the EIAR also does not identify why one option was considered more favourable to the other in consideration of environmental effects.

While the EIAR has not included a thorough examination of reasonable alternative locations or designs. I consider the planning history and policy context for the site to be material in terms of site selection. The EIAR could have included a broader consideration of alternative locations, alongside an explanation as to why the proposed site is considered most suitable. However, this explanation would

primarily relate to the zoning of the site, in an area 'Acceptable in Principle' for wind energy development, with such zoning already informed by an assessment of environmental factors, and I have outlined this above. In my view, the lack of a thorough examination of alternatives in the EIAR does not amount to so serious a failure as to render the application unacceptable in my view, and would not justify, and in isolation, the refusal of the appeals. I am satisfied that given the specific circumstances of this case, the consideration of alternatives while not comprehensive, does meet the minimum requirements of Article 94. This is specifically in consideration of the planning history and applicable planning policy context for the site, as well as the explanation presented in the EIAR. As a result, I will continue with my EIA of the proposed development below.
A description of the baseline environment and likely evolution in the absence of the development.
The baseline environment is described in each technical chapter within the EIAR and the likely evolution of the environment in the absence of the proposed development, with reference to 'do-nothing' scenarios.
A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved.
The methodology employed in carrying out the EIAR, including the forecasting methods is set out in each of the individual chapters assessing the environmental effects. Section 1.10 of Chapter 1 of the EIAR states that there were no technical difficulties encountered in compiling the information to carry out the EIAR. Where other difficulties (non-technical) may have occurred with respect to data gathering, I have commented on these where relevant as part of my assessment below. I am satisfied that forecasting methods overall are adequate in respect of likely effects, including methods applied to account for Covid-19 pandemic restrictions.
A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it.

Chapter 10 ‘Human Environment’ considers Vulnerability of the Project to Major Accidents and Natural Disasters in section 10.7.3.5. It considers proposed project’s vulnerability to major accidents and natural disasters, potential adverse impacts on human health and the environment, the magnitude and likelihood of potential impacts, and the preparedness of the project to the same. The EIAR confirms that the potential vulnerabilities relevant to the proposed development are limited to flooding; fire; major incidents involving dangerous substances; catastrophic events; and landslides.

These identified potential vulnerabilities interact with other chapters in the EIAR, including chapter 7 ‘Hydrology and Water Quality’ with respect to flooding; chapter 6 ‘Land, Soil and Geology’ with respect to catastrophic events such as wind turbine toppling, rotation failure in extreme wind and fire, as well as landslides; and Appendix 2.2 of Volume 2 of the EIAR with respect to the Construction and Environmental Management Plan for the proposed development. The EIAR also notes that the proposed development is not in proximity to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e. SEVESO site (with reference to the radius for consultation set out in County Development Plan Policy Objective EC 8-9).

The EIAR outlines that it is unlikely that any of the proposed vulnerabilities would occur in practice, and that the proposed development has been designed to minimise the level of risk. The main mitigation for the project is set out within a Construction and Environmental Management Plan, which also includes an Emergency Response Plan to be implemented in the event of an emergency. With the implementation of mitigation measures, there will be no negative significant residual effects associated with the Project.

Having regard to the location of the site and the existing land use as well as the zoning of the site, I am satisfied that there are unlikely to be any effects deriving from major accidents and or disasters.

Article 94 (c) A summary of the information in non-technical language.

The EIAR comprises a non-technical summary, a main volume and supporting appendices. I am satisfied that the non-technical summary is concise and

comprehensive and is written in a language that is easily understood by a lay member of the public.
Article 94 (d) Sources used for the description and the assessments used in the report.
The sources and references used to inform the description, and the assessment of the potential environmental impacts are set out at the end of each individual chapter in the EIAR. I consider the sources relied upon are sufficient in this regard.
Article 94 (e) A list of the experts who contributed to the preparation of the report.
Chapter 1 of the main volume identifies the contributors to the report and their expertise in the preparation of the EIAR. Individual technical chapters also identified the competence of individuals who contributed to the preparation of each chapter. I am satisfied that the information contained in the EIAR has been prepared by competent experts. I also consider that the EIAR is compliant with Article 94 of the Planning and Development Regulations, 2001, as amended.

11.10. Consultations

11.10.1. I am satisfied that the participation of the public has been effective, and the application has been made accessible to the public by electronic and hard copy means with adequate timelines afforded for submissions. I addressed submissions requesting additional time to review documentation in section 9.8 above.

11.11. Population and Human Health

11.11.1. Issues Raised

11.11.2. Issues have been raised in submissions / appeals, particularly regarding potential impact from noise and shadow flicker during the operation of the project, as well as upon property value. I address these matters as part of my planning assessment in sections 9.4 and 9.5 above, as well as in this section, and section 11.14 below with respect to noise. Matters concerning potential impact upon tourism and recreation are also addressed in this section below.

11.11.3. Context

11.11.4. Chapter 10 of the EIAR 'Population, Human Health & Material Assets' examines the potential effects of the proposed project on population and human health. Section 10.2 describes the methodology followed in the preparation of the chapter, including that it has been completed in accordance with government and industry guidance for EIA. It is noted in section 10.4.1 of the EIAR that employment data for 2020 and 2022 was impacted by increased unemployment due to the Covid-19 pandemic, and then by an increase in use of Department of Social Protection supports due to the conflict in Ukraine. Similarly, section 10.6 of the EIAR notes that there were unprecedented negative impacts upon international tourism in 2020 and 2021 due to the Covid-19 pandemic, therefore the data for that topic relies upon statistics from 2018 and 2019.

11.11.5. Baseline

11.11.6. Chapter 10 describes the baseline characteristics of the study areas in terms of population, socio-economics, employment, economic activity, land use, recreation, amenity, tourism, human health, safety, and renewable / non-renewable resources and utility infrastructure. The main potential impacts upon these characteristics are summarised below.

11.11.7. Potential Effects in the Absence of Mitigation

Table 11.11.1: Summary of Potential Effects Population and Human Health

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**
Do Nothing	Section 10.9 of the EIAR addresses. Existing land uses on the site would continue in their present agricultural form. Continued excess greenhouse gas emissions and consumption of fossil fuels. Opportunity for employment related to construction, operation and decommissioning would be lost, with associated lost opportunity for economic activity in County Cork. Development contributions and commercial rates would not be payable to Cork Council by the development and there would be no Community Benefit Fund Scheme.

Construction	Potential to create between approximately 40-70 jobs. While these jobs are likely to primarily be staffed by people in the wider county area, leading to a temporary increase in the local population during working hours, some direct employment could also arise for people locally. Indirect positive impact is also anticipated from workers requiring services in the wider area, such as the villages of Kilmurry, Crookstown & Newscestown, and the town of Macroom. In terms of land use, sections of land adjacent to proposed infrastructure may be temporarily inaccessible during construction activities, however this will only occur on involved landowners' land and agricultural practice can continue. Turbine delivery may affect land use temporarily or briefly due to the transportation of oversized loads on the public road. Also potential for health and safety hazards that could affect works and the public, including impact from noise, vibration, contamination and drainage.
Operation	Direct creation of between 8 and 10 long term jobs related to operations and maintenance, back-office support and indirect jobs associated with related activities. Indirect jobs will also be supported, such as consultants, research institutions, universities and financial services. Rates and development contributions will also be paid by the developer during operation to Cork County Council, supporting community services and public infrastructure. All projects looking for support under the new Renewable Energy Support Scheme (RESS) need to meet pre-qualification criteria, including the provision of a community benefit fund. The details of how the proposed project would contribute to a community benefit scheme is set out in section 10.4.3.2 of the EIAR, with a potential funding of €1 million to the local community. The proposed development will also contribute to decreased reliance upon fossil fuels, and renewable energy is lower cost,

	with wind energy decreasing the cost of electricity. The proposed development will result in the permanent change of use of lands from open field agriculture to wind farm use over approx. 2.7ha. Potential impact from noise and shadow flicker associated with the project is also identified. An assessment of this is set out in more detail below.
Decommissioning	The potential effects associated with the decommissioning phase will be similar to those associated with construction phase, but of a reduced magnitude.
Cumulative	Addressed in section 10.10 of the EIAR. Appendix 1.2, Vol.2 of the EIAR lists all projects considered with respect to in-combination effects. There is potential for cumulative impact arising from the operation of the proposed wind farm and the existing Garraneragh Wind Farm in relation to land use, however no significant effect is identified. Cumulative noise impact from these wind farms is predicted to be of moderate significance. There is also potential for in combination from the proposed development and both the existing Garraneragh and Carrigerierk wind farms, and other wind farms within 20km with respect to landscape and visual effects, which is addressed in Chapter 8 of the EIAR and below in this report. Potential cumulative impacts with respect to the AGCR (alternative grid connection route) are highlighted in the EIAR with respect to the construction phase, including temporary significant negative impact with respect to noise, however these works will not occur over an extended period at any one location. Long-term significant positive cumulative impact is highlighted in the EIAR with respect to utility infrastructure and renewable energy resource in the greater area and nationally, as well as reducing requirements for fossil fuels. With respect to the potential for cumulative shadow flicker effect, the Irish Wind Energy Association (IWEA) Guidelines

	recommend that all existing and permitted wind farm developments within 2km of the proposed wind farm should be considered. The Garranereagh Wind Farm is located immediately to the east of the proposed project site, and the EIAR identifies that there is potential for an overlap of shadow throw areas to occur from both that wind farm and the proposed development together (illustrated in Figure 10-7 of the EIAR). There are 6 receptors predicted to receive cumulative shadow flicker effects with the operation of both wind energy developments. WEDG limits are exceeded at these receptors, and therefore the EIAR includes mitigation measures to address this.

11.11.8. Mitigation

11.11.9. Mitigation has been incorporated into the design stage, allowing for the prevention or minimisation of potential impacts, including screen planting (described further as part of landscape and visual impact which is addressed below). Post design mitigation primarily relates to implementation of a Construction and Environmental Management Plan (CEMP) during construction and decommissioning phase, including health and safety procedures and best practice measures. This is included in Appendix 2.2. Vol.2 of the EIAR. In relation to shadow flicker, specific mitigation is outlined on page P21-143, 47 of the EIAR and comprises light sensors and specialised software to prevent operation during periods when shadow flicker is predicted to exceed the exposure thresholds set out in WEDG 2006 at all sensitive receptors located within 10 rotor diameters (1170m) of the proposed wind farm. During operation mitigation will also include the application of appropriate best practice and safety measures by workers on the site.

11.11.10. Direct and Indirect Effects Assessment

11.11.11. I have examined, analysed and evaluated Chapter 10 of the EIAR and associated documentation, including submissions on the file related to this topic. Particular concern is raised in the appeal grounds and submissions concerning the potential for

adverse effect from operation of the proposed wind turbines upon human health, arising from noise and shadow flicker.

11.11.12. Potential impact from noise associated with the operation of the development and related impact upon human health is addressed in section 10.7.3.2 and as part of chapter 9 with respect to 'noise' in the EIAR. In summary, the EIAR concludes there is no scientific consensus to support an association between negative health impacts and responsible wind turbine development. I consider this further as part of my assessment of noise in this EIA at section 11.14 below.

11.11.13. Potential for health and safety impact from shadow flicker is addressed in section 10.7.3.3 of the EIAR which reference the 2006 Wind Energy Guidelines, and in undertaking my assessment I have also regard to the draft 2019 Wind Energy Guidelines. A Shadow Flicker Study Area of 1.170m from the proposed turbines is analysed, being 10 times the maximum rotor diameter, in accordance with the established approach under international publications (page P21-143, 37 EIAR). Sensitive receptors and the maximum extent of shadow coverage within this area are identified in Figures 10.5 and 10.6 of the EIAR. The result of modelling is described in the EIAR, with the worst case scenario for instances of shadow flicker impact upon residential windows included in Appendix 10.2 of the EIAR. A more 'likely' scenario (on an annual basis) is also described in Table 10.11 of the EIAR which takes into account annual average sunshine hours for the region. Theoretical minutes per a day of shadow flicker is detailed in Table 10.11 of the EIAR and does not take into account average sunshine and is therefore presented as a conservative prediction in the EIAR.

11.11.14. The Wind Energy Development Guidelines (WEDG) 2006 recommend that shadow flicker at neighbouring offices and dwellings within 500m, should not exceed 30 hours per year or 30 minutes per day. The EIAR identifies that there are two receptors located within the WEDG 500m assessment area and both of these exceed the daily 30 minutes and the annual 30 hours per year when considering the worst-case predictions. Taking into account the 'likely' sunshine hours per day, one receptor (receptor 36) remains above the 30 hours per year limit. The EIAR therefore identifies that mitigation measures will be required to reduce shadow flicker impacts for that location. When considering the wider 1170m Study Area, the number of receptors that exceed 30 minutes in a day is 25. 20 receptors exceed the annual limit of 30 hours per year, however, taking into account the 'likely' sunshine hours this is reduced to 4

receptors. I note that with reference to the 2019 draft Wind Energy Guidelines, these state at 5.8.2 that conditions should be imposed to ensure that no existing dwelling will experience shadow flicker. For the proposed development, this is possible through the use of a condition which will ensure utilisation of the technology already outlined by in the EIAR mitigation, but to require that this secures the elimination of shadow flicker through shut down, rather than adherence to the 30 minutes a day limit set out in the 2006 guidelines. On balance, I consider that this will affect the output of the development minimally, when considering the extent of improved condition resulting from this mitigation for surrounding properties. Therefore, I have included a specific condition with respect to shadow flicker below to enhance the mitigation set out in the EIAR.

11.11.15. The appellants and observers to the appeal, have raised concern regarding the potential impact the proposed project could have on local property values. Section 10.4.3.3 of the EIAR addresses property values, with reference to studies from the US and Scotland (in the absence of any Irish studies). The findings of these studies are summarised in the EIAR, and ultimately support a conclusion that wind farms have not impacted property values (in the study areas). Therefore, the EIAR concludes that the proposed wind farm would not impact on property values in the local area. I also address this matter in section 9.5 above as part of my planning assessment.

11.11.16. I note concerns raised that the proposed development would have negative impact upon livestock and animal welfare in the area in terms of noise disturbance. This is particularly raised with respect to the grazing of horses on lands adjacent to the site and the potential for these animals to be ‘spooked’ with potential adverse consequences, including harm to the people handling the animals. The EIAR addresses this in section 10.5.3 stating that there are no peer reviewed studies indicating that wind energy development has a negative impact on the health of livestock, with examples of renewable energy developments coexisting with livestock, including grazing in the same fields. Examples are cited at Boolard Wind Farm and Rathnacally Wind Farm. The EIAR concludes that existing land-use, such as grazing livestock or crops can continue on the site as normal. I also address this as part of land use in section 11.15 below.

11.11.17. Concerns are raised in the appeals and submissions related to potential impact upon recreation and tourism as a result of the proposed development. The EIAR addresses

this in section 10.6. The EIAR states that there are no significant tourism attractions located in proximity to the proposed development and that works associated with the site will avoid negative impact on nearby community facilities. With respect to the turbine delivery route, mitigation is proposed to avoid direct impact upon town and village facilities and services. The EIAR addresses potential impact upon recreation, amenity and tourism during operation of the wind farm from section 10.6.3. Reference is made to Fáilte Ireland research which found that visitors (both domestic and international) had a broadly positive attitude towards wind farms. Visibility of the proposed development from the Gearagh Nature Reserve is anticipated to have a 'slight' impact, with no notable detraction in scenic amenity (considered further as part of the LVIA in Chapter 15 of the EIAR and addressed below in this report with respect to landscape and visual effects).

11.11.18. In terms of residual impact, with the application of mitigation as described above, no significant negative impacts are predicted in the EIAR upon population and human health during any phase of the proposed development. Significant long-term, positive impact is anticipated to arise from the Community Benefit Fund associated with the RESS for the proposed project, upon the socio-economic profile of the site and greater community.

11.11.19. Direct and Indirect Effects Conclusion

11.11.20. Having regard to the examination of environmental information in respect of human health and population, in particular the EIAR provided by the applicant, the appeal grounds and the submissions during the course of the appeal, it is considered that the main direct and indirect effects on population and human health are, and will be mitigated, as follows:

- Direct, significant and long-term positive impact arising from the Community Benefit Fund for the project.
- Implementation of a CEMP during construction and decommissioning phases to mitigate direct negative effects. Designed-in mitigation includes screen planting and measures to prevent impact from shadow flicker. Application of best practice and safety measures during operation of the project.

11.11.21. Overall, I concur with the conclusions of the EIAR with respect to population and human health.

11.12. **Biodiversity**

11.12.1. Issues Raised

11.12.2. Submissions / appeals raise a number of matters concerning ecology / biodiversity. Some of these matters that relate specifically to designated European sites are addressed as part of my Appropriate Assessment in section 10 of my report above. Matters relating to baseline data are addressed below, under the heading of the same. Other matters relate to habitat types on the site, risk of water contamination, use of the site/surrounds by particular bird species and bats. I address these concerns as part of my assessment of direct and indirect effects below.

11.12.3. Context

11.12.4. Chapter 5 of the EIAR addresses potential effects of the project upon biodiversity. In relation to designated sites, an Appropriate Assessment is set out in section 10 of this report and should be read alongside this part of the EIA. Section 5.2 describes the methodology followed in the preparation of the chapter, including that it has been completed in accordance with government and industry guidance for best practice approaches. The overarching legislative context for the consideration of impact upon ecology is also outlined, including recognition of the protection of nationally rare flora and fauna under the Wildlife Act 1976 as amended, and associated orders and regulations, including the Flora Protection Order 2022. Obligations relating to protecting water quality are also recognised with respect to the EU Water Framework Directive (2000/60/EC).

11.12.5. Baseline

11.12.6. Chapter 5 describes the surveys undertaken of the site and a wider ‘study area’ to establish the baseline characteristics. The closest European site to the proposed development is the Gearagh SAC (c. 5.9 km) and the closest national designated site is Boylegrove Wood pNHA (c. 6.1 km), however there are no linkages to these designated sites. The proposed development is not hydrologically linked to any designated sites, however it overlaps core foraging areas associated with features of interest for The Gearagh SPA, the Lough Gal pNHA and The Gearagh pNHA. There are no nature reserves proximate or linked to the proposed development site. The only RAMSAR site sufficiently proximate to require consideration is The Gearagh,

which overlaps The Gearagh SAC and SPA. Other sites of interest sufficiently proximate to warrant consideration include Dunmarklun Wet Woodland (c. 2km), Teerelton Pond South and Teerelton Pond North (c. 4km), Boylegrove Wood pNHA and Dromkeen Bog NHA.

11.12.7. There are two records of rare or protected plant species proximate to the site (Table 5-25 of the EIAR) Mudwort (Limosella aquatica) and Brown beak-sedge (Rhynchospora fusca), however there are no suitable habitats to support these species on the subject site. In relation to invasive and non-native species, Himalayan knotweek (Persicaria wallichii), Cherry laurel (Prunus laurocerasus), Sycamore (Acer pseudoplatanus), Sitka spruce (Picea sitchensis), Fuchsia magellanica and New Zealand holly (Olearia macrodonta) were recorded in the study area for the proposed development site (Table 5-27 EIAR).

11.12.8. In terms of the habitat characteristics of the proposed development site, the EIAR describes this from section 5.3.4. There were no Annex I habitats recorded during site walkover surveys. There are extensive areas of improved agricultural grassland (GA1) and wet grassland (GS4), with smaller areas of scrub (WS1), conifer plantation (WD4) and buildings and artificial surfaces (BL3). Linear features onsite include hedgerows (WL1), treelines (WL2) drainage ditches (FW4) and first order upland eroding rivers (FW1). The southernmost sections of the study area are drained by Moneygaff_east river while the norther section of the study area is drained by the Cummer_19 river. Habitats on the site are categorised as being either of ‘site’ or ‘local’ importance.

11.12.9. In relation to terrestrial mammals, two species, red fox and rabbit, were recorded on the proposed development site during site walkover surveys or on trail cameras, these species are categorised as ‘least concern’. Other species historically recorded in the area of the study area include badger, pygmy shrew, red squirrel, otter, hedgehog and hare. While there were no observations or signs / indicators of these aforementioned species on the proposed development site, supporting habitat is exhibited. Badgers and their resting places are protected species in Ireland under the Wildlife Act 1976 (as amended) and Annex IV of the Habitat Regulations. Surveys of the site did not record any evidence of badger.

11.12.10. Bats are a protected species in Ireland under the Wildlife Act 1976 (as amended) and as Annex IV species requiring strict protection under the European Communities (Bird and Habitats) Regulations 2011, and are addressed from section 5.3.6 of the EIAR. Existing recordings of bat species in the area are described. The suitability for the study area has been scored as holding low to moderate suitability for all bat species combined based on Lundy et al., (2011) habitat suitability index. Bat activity for all species was low, low to moderate, with the most commonly recorded bat species being common pipistrelle, soprano pipistrelle, brown long-eared, Leisler's and natter's bat. I refer the Board to Table 5-38 of the EIAR which summaries the bat survey results.

11.12.11. Bird surveys are described from section 5.3.7 of the EIAR, comprising a desktop study of the site, flight activity surveys, hinterland surveys, winter and breeding transect bird surveys. During activity surveys, red-listed species recorded include golden plover, kestrel and snipe. Amber-listed species include hen harrier, lesser black-backed gull and mallard, and the green-listed buzzard, great spotted woodpecker, grey heron and peregrine falcon and sparrowhawk. Hen harrier, golden plover and peregrine falcon are also listed under Annex I of the EU Birds Directive. During hinterland surveys, red-listed species recorded include black-tailed godwit, curlew, dunlin, golden plover, lapwing, shoveler, snipe, goldeneye, kestrel and woodcock. Chapter 5 of the EIAR gives a comprehensive list of all other species recorded during surveys. Over the winter and breeding transect survey period, a total of 38 bird species were recorded. While no Annex I listed species were recorded, four were red-listed (grey wagtail, kestrel, meadow pipit and redwing). Snipe was the only wader species recorded. I refer the board to the EIAR tables in Chapter 5 setting out survey results and Appendix 3 for the Board's Specialist Ecologist report which has informed my assessment.

11.12.12. Aquatic ecology associated with the site is also described in the EIAR from section 5.3.8. The proposed development site is situated in the Southwestern River Basin District and with hydrometric area 19 (Lee, Cork Harbour and Youghal Bay) within the Lee[Cork]SC_030 and Lee[Cork]_SC_050 river sub-catchments. The site is drained by the Cummer river to the north, and the Moneygaff East Stream, Barnadivane Stream and River Bride to the south. The EIAR describes the EPA status of these watercourses. Salmonids are recorded to use watercourses linked to the site and a full

report of aquatic ecology is set out in Appendix 5.4 of the EIAR. No White-clawed Crayfish or Freshwater Pearl Mussel were recorded. There is floating river vegetation at the lower reaches of the Blackwater (Clare) which may correspond to Annex I habitat 'Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation' (3260) ('floating river vegetation'). No invasive aquatic species were recorded.

11.12.13. The findings of a desk study covering other protected and rare fauna (amphibians, reptiles and terrestrial invertebrates) is set out from section 5.3.9. Three species historically recorded in 10km grid squares overlapping the proposed development site are identified, however none of these species has been recorded within the site.

11.12.14. I note submissions regarding the consultation undertaken as part of the applicant's preparation of ecology / biodiversity assessments. Section 5.2.3 of Chapter 5 in the EIAR sets out the consultation undertaken as part of preparation of the assessment of ecological impacts. The penultimate sentence in the second paragraph on page 27 of Chapter 5 of the EIAR also confirms that with respect to hinterland bird surveys, consultations were held with local birdwatchers on recent data and sightings. I also refer to my assessment of direct and indirect effects below which also addresses submissions on survey data.

11.12.15. Key ecological receptors (KERs) for the site are identified in Tables 5-44 – 5-47 of the EIAR. The main potential impacts upon the baseline characteristics outlined above, and in light of identified KERs for the site, are summarised in the table below.

11.12.16. Potential Effects in the Absence of Mitigation

Table 11.12.1: Summary of Potential Effects Biodiversity

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**
Do Nothing	Continuation of existing agricultural activities, excluding forestry. Likely that the habitats and species found at the site would remain as they currently are.
Construction	Direct loss or alteration of habitats on the site, with percentage of total habitat type within study area indicated: 6.6% of Improved agricultural grassland (GA1); 4.4% of Wet

	grassland (GS4) (KER); 26% of Scrub (WS1) (KER); 2.6% Conifer plantation (WD4); 1.6% area / 25% linear, Buildings and artificial surfaces (BL3); 18% Hedgerows (WL1) (KER); 14.1% Treelines (WL2) (KER); and 1.5% Drainage ditches (FW4) (KER). Total habitat loss of approx. 7.6ha (c.6.6% of habitats in the study area). Habitat loss or disturbance with potential to impact mammal fauna associated with the site, including pygmy shrew, hedgehog, badger and red squirrel. Potential impact to bats from loss, damage, or disturbance, to roost sites or habitat. Potential impact to birds from habitat damage or loss and displacement due to disturbance (refer to further detailed table 11.3 below). Construction activities have the potential to affect the quality of habitats present for aquatic organisms. Potential to increase suspended solids / silt runoff to watercourses (impacting salmonids). Drainage works to the site can potentially result in increased erosion of nearby streams and may result in lower water levels in dry weather, which will reduce the habitat available to fish. Potential for direct habitat loss affecting common frog and invertebrates. Indirect impact from the potential spread of invasive species, dust deposition (inhibiting plant growth and contributing to sedimentation in watercourses); and the drying out of surrounding habitats as a result of dewatering for turbine base excavations. Indirect potential for impact to bats from loss of foraging and commuting habitats/features utilised by bats (refer to further detailed table 11.2 below). Potential for indirect effects to bird species linked to aquatic habitats through pollution events, sediment laden run-off and dust deposition. Accidental release of silt laden run-off or pollutants effecting water quality and aquatic ecology, such as fish and fisheries, aquatic invertebrate communities and particularly salmonids. Increased nutrients could cause enrichment or eutrophication of streams and catchment areas downstream,

	impacting water quality. Potential for indirect effects on common frog from sediment or pollution run off. In the absence of mitigation, potential for significant negative impact upon bats arising from the above potential effects.
Operation	Direct effects include the potential for collision, or barrier to dispersal, caused by turbine towers/blades/associated infrastructure effecting species associated with the Gearagh pNHA / qualifying interests of the Gearagh SPA. Potential for rotation of blades of the wind turbines and from vehicle movement to result in displacement of local wildlife, including avoidance by birds. Potential collision hazard (mortality risk) from rotating blades effecting local bird and bat species, there is also a mortality risk to bats from barotrauma through change in atmospheric pressure from the turning blades. (Refer to further detailed tables 11.2 and 11.3 in relation to birds and bats below). Potential noise increase from rotating blades, causing disturbance to local wildlife. Potential for landscaping maintenance to cause disturbance. Potential risk of spills (oils / lubricants / fuels) during maintenance or from vehicles using access roads, effecting aquatic environment. Indirect effect to bats (low potential trees for roosting) outside the footprint due to increased noise. In the absence of mitigation, potential for significant negative impact upon bats arising from the above potential effects.
Decommissioning	Similar effects to that outlined for the construction phase above, but to a reduced scale.
Cumulative	Addressed from section 5.6.4 of the EIAR. In the absence of mitigation, there is potential for effects arising from the proposed development in-combination with other nearby projects, contrary to national plans and guidelines.

	There are 11 operational and two consented wind farms within 20 km of the proposed development. The greatest potential for negative in-combination effects would be during the construction phase, however, as all but two of the surrounding wind farm projects are operational, such cumulative impacts are unlikely to occur. The two yet to be constructed are located in a different water catchment area and a distance of c.17km away. An application for quarrying activities within an existing quarry area (06/13499 and PL04.226347) is identified, which is within the same sub-catchment as the subject site, with potential for cumulative impact on aquatic ecology arising from construction activities in the absence of mitigation. In relation to solar farm development, nearby are identified in the EIAR. The construction phase has the greatest potential for in-combination effects through contribution to suspended solids/pollutants to nearby watercourse during excavation and general construction activities. Cloghmacow (4km away, permission ref.196847) solar farm near Cookstown will have an initial negative impact due to loss of hedgerows for the development and a negative knock-on impact on species associated with those hedgerows. The delivery of planned landscaping is expected to have a positive impact on this habitat type. The potential for cumulative effects arising from the proposed development in-combination with farming in the area are also identified. The main impact being an increase in nutrient levels of local watercourses. Potential for the proposed development to contribution to a cumulative impact on water quality in drains within the site and local watercourses further downstream of the site, through the potential for sediments and other pollutants entering watercourses as a result of

	vegetation clearance, construction actives in addition to ongoing farming operations. Potential for impact would increase in winter months or times of high rainfall. Potential for cumulative effects arising from the proposed development in-combination with forestry activities in the same catchment, particularly harvesting operations, which alongside vegetation clearance and construction activities proposed at the subject site, could increase release of sediments and nutrients too receiving watercourses. There is potential for cumulative impact from the spread of invasive species recorded within the proposed development site with other projects such as the AGCR and enabling TDR works. Potential for in-combination effects upon mammals, with removal of habitat (breeding sites, otter holds and couches, foraging habitat), arising from proposed construction activities alongside other planned projects in the area, the AGCR and TDR, as well as farming and forestry activities. Potential for cumulative impact on bats during construction works, including displacement of populations, abandonment of young, mortality and impacts on water quality – availability aquatic prey species, arising from construction works in-combination with the AGCR and TDR. During operation, there is potential for cumulative impact upon bats from mortality and reduction in local populations, arising from in-combination operation of the proposed wind farm alongside nearby consented and existing wind farms. Potential for in-combination effects upon birds, aquatic ecology, frogs and invertebrates, arising from proposed construction activities and operation of the proposed

	development, alongside other planned and existing projects in the area, and the AGCR and TDR.

11.12.17. I refer the Board to the specialist Ecologist report at Appendix 3 of this report which also provides a more detailed assessment of certain key issues with respect to bats, birds and aquatic ecology and this has informed the findings of my assessment.

11.12.18. Mitigation

11.12.19. Section 5.7 of the EIAR outlines mitigation measures to avoid, reduce and where possible, offset likely significant impacts arising in relation to ecology. Measures are designed into the proposed development to reduce impacts on designated sites, flora and fauna through avoidance and design, including minimisation of hard-standing area (and associated land-take / habitat loss); avoiding designated sites, undergrounding of cabling and no watercourse crossings (one manmade agricultural drain crossing). Specific additional mitigation measures are also included and summarised below.

11.12.20. During the construction phase of the development mitigation includes the following:

- Employment of a Protect Ecologist/Ecological Clerk of Works for the duration of the construction phase, overseeing implementation of mitigation, advise on environmental effects and communicate actions with project owner and contractor. Toolbox talks.
- Minimising area of proposed works to avoid impact upon habitats and fauna.
- Hedgerow and treeline planting to reinstate or replace linear habitat lost, comprising 8 new hedgerows or treelines, totalling c.1,804m in length and 670m of existing hedgerow to be enhanced at the site, to mitigate linear wooded habitat loss and enhance connectivity in the landscape, with an overall biodiversity net gain (reference to the Biodiversity Enhancement and Management Plan in Appendix 5.7 of the EIAR).
- Measures to reduce the spread of invasive species, implementation of an invasive species management plan (Appendix 5.8 of the EIAR) and invasive species surveys prior to works.

- Preconstruction mammal survey. Ecologist supervision of vegetation, scrub and hedgerow removal. Updating NPWS if necessary and implementation of relevant guidelines. Limitation of night-time works to avoid sensitive features.
- Specific measures outlined with respect to badgers, otters, red squirrel, (including ecologist surveys prior to works/vegetation clearance and contacting NPWS/application of guidelines if necessary).
- Where habitat is too dense from mammal presence checks, vegetation removal and grassland trimming / maintenance will be undertaken outside of bird breeding season (March 1st to August 31st), with particular attention to presence of breeding/offspring hedgehog, hare, pygmy shrew during related breeding periods.
- Specific measures are outlined with respect to bats. Measures include, buffer zones from woodland/plantations to turbines, clearance of hedgerows and scrub around proposed turbines, clearance of vegetation to drainage ditch beyond buffer to T2 to discourage bats travelling along this, supervising by ecologist of vegetation clearance, protection of retained trees, pre-construction surveys, planting of new hedgerow, sensitive hedgerow maintenance, and directional lighting.
- Subject to other environmental concerns, removal of vegetation and scrub outside of the bird breeding season (March 1st to August 31st), or where required outside of this period, inspection to be carried out by suitably qualified ecologist and if necessary, felling in accordance with NPWS agreement.
- Planting of wildflower strips.
- Construction activities to take place during hours of daylight, where limited activities required at night-time, works to be supervised by project ecologist.
- Implementation of mitigation measures outlined in Chapter 7 – Hydrology and Water Quality of the EIAR and CEMP to minimise and prevent impact to water quality.
- Check dams / Silt fences / Silt traps / Bog mats.
- Specific measures for the removal of vegetation within riparian corridors.

- Implementation of surface water management plan (included in CEMP).

11.12.21. During the operational phase, mitigation measures include the following:

- Mitigation measures with respect to water quality (refer to Chapter 7 Hydrology and Water Quality of EIAR).
- Continued monitoring of invasive species.
- Feathering of blades (to ensure they do not rotate when idle), and increased cut-in speeds / curtailment (operation occurring in higher wind speeds when bats are less active), to all turbines, reducing risk of bat mortality.
- Post construction surveys of bat activity.
- Monitoring of curtailment to determine bat activity, with permission to be sought from Cork County Council in consultation with NPWS to cease curtailment / cut-in speed measures where activity is reduced to low. Alternatively, measures will continue and continue to be monitored.
- Flashing red aviation obstruction lights to be provided on perimeter turbines (subject to approval of IAA) to reduce bat and bird collisions.
- Vegetation free buffer zones around turbines.
- Monitoring of bat mitigation measures for three years post construction with appropriate measures taken to enhance these if required. In addition, monitoring of bat fatality for 3 years, and in subsequent years 5, 7, 10, 15 and 20.
- Post-construction monitoring of mitigation measures for birds. Bird fatality and activity monitoring. Monthly Wildfowl Census, breeding bird survey and breeding wader survey in years 1, 2, 3, 5, 10 and 15 post construction.
- With respect to aquatic ecology, weekly inspections of the erosion and sediment control measures on site during the construction period, will be followed by fortnightly inspections in operation, until the risk of erosion or siltation has declined following the successful establishment of vegetation during the operational phase.

11.12.22. During decommissioning phase, mitigation measures include the following:

- The same mitigation measures will be implemented as during the construction phase.
- Mammal survey check.
- Covering of turbine foundations and hardstand areas with local soil/topsoil to revegetate (causing less environmental damage than removal).

11.12.23. Enhancement measures:

- Implementation of Biodiversity Enhancement and Management Plan (Appendix 5.7 EIAR).

11.12.24. Direct and Indirect Effects Assessment

11.12.25. I have examined, analysed and evaluated Chapter 5 of the EIAR and associated documentation, including submissions on the file related to this topic. Particular concern is raised in the appeal grounds and submissions concerning the potential for adverse effect from the proposed development upon biodiversity, particularly with respect to effects upon water quality, bats, mammals and birds.

11.12.26. I refer to the Boards specialist Ecologist report at Appendix 3 of this report which should be read in conjunction with this section of my EIA and has also informed my assessment.

11.12.27. The EIAR identifies that there is potential for adverse effects upon water quality in the absence of mitigation measures. While there is a technical hydrological connection to Cork Harbour SPA, due to distance and dispersal, there is no pathway to that site, and no other hydrological connections to any designated sites, and no direct effects anticipated. Potential for impact upon Natura 2000 sites are addressed in section 10 of this report. Potential direct effects arising from impact to water quality relate to aquatic ecology, with potential for indirect effect upon mammal and bird species. With the application of mitigation to protect water quality, no significant adverse effect is anticipated.

11.12.28. With respect to habitat loss as a result of the proposed development, habitats recorded on the site are of ‘site’ or ‘local’ importance and there were no Annex I habitats recorded during site walkovers. There are no significant adverse impacts identified with respect to habitat loss on the site. I note submissions that the proposed planting plan is substandard. Appendix 5-7 of the EIAR sets out a Biodiversity

Enhancement and Management Plan. This outlines mitigation for habitat loss, including hedgerow and tree planting, pollinator planting, wildlife ponds and maintenance / monitoring of these measures. While I note submissions that the proposed planting plan is inadequate, I am satisfied that the proposed mitigation planting plan is comprehensive, with a focus on enhancing the biodiversity value of the site and will appropriately reduce adverse impacts upon habitat associated with the proposed development.

11.12.29. In relation to potential effect upon mammal species, while desktop surveys demonstrate a number of species recorded within the 10km grid square that the proposed development is located within (Table 5-29 EIAR), only badger, rabbit, fox and wood mouse were recorded within 1km, or overlapping, the site. Walkover surveys of the site itself recorded only rabbit and fox. However, due to historical records of badger, pygmy shrew, red squirrel, otter, hedgehog and hare in the study area, while these species were not observed on the site, the EIAR takes a precautionary approach with respect to their potential presence on the site and mitigation is included to address this (as outlined above). With the application of mitigation, no significant adverse effect upon terrestrial mammals is anticipated.

11.12.30. With respect to bats, proposed mitigation will reduce potential risk of fatality from collision and/or barotrauma events. The EIAR concludes that the impact of the proposed development upon local bat populations, with the implementation of mitigation, will be not significant, slight residual, negative, reversible impact, in the local context, with the favourable conservation status of bat species unaffected, and all species confirmed or expected within or near the study areas predicted to persist. (Section 5.9.5 EIAR).

11.12.31. While I note submissions stating the local knowledge particularly with respect to ecology has not informed the applicants assessment of the site, I am satisfied that the surveys submitted to inform the EIAR (and NIS) for the application are comprehensive in my view. Submissions have also informed my assessment, and I am cognisant of the range of species that locals have witnessed on the site and surrounding area. However, while there may be presence of some species not reported in the applicant's surveys, any impact upon any of these species would not be significant given that they are not frequently recorded at the site or recorded at significant numbers. The EIAR states that local birdwatchers informed baseline analysis as stated above. In any case,

I refer to the specialist Ecologist report for the Board in this regard, which outlines that the survey data presented is comprehensive and in fact goes beyond what might ordinarily be expected given the context of the site. As such, I am satisfied that the survey data presented is acceptable to inform my assessment.

11.12.32. In relation to birds, the EIAR considers the results of survey data alongside individual species conservation status, and sensitivity to the proposed wind farm development. In summary, there are no significant effects anticipated with respect to bird species due to various factors, including survey data, species characteristics and the characteristics of the area. An overview of these findings is outlined below.

11.12.33. The proposed development will result in habitat loss various bird species dominated by passerines. Meadow pipit which is a ground-nesting species utilising grassland habitat at the site to breed and forage, in addition redwing and skylark may use grassland habitat onsite for foraging, however there is an abundance of similar agricultural habitats in the area. The EIAR states that studies of the impact of wind farms during both construction and operation have found little evidence of significant disturbance effects on passerine species (Table 5-51 EIAR). The EIAR notes with respect to the risk of collision by passerines, that this is not considered likely to be a significant issue as their breeding activity is generally well below the height of rotor blades.

11.12.34. In terms of target species, buzzard was observed in the study area, the extent of habitat that would be lost on the site as a result of the proposed development, that would be relied upon by this species, is low (1-5%). Possible disturbance to breeding, hunting, commuting and foraging buzzard could result. In relation to golden plover, survey data demonstrates a lack of usage of the 500m turbine buffer, beyond birds occasionally flying through the area, with the site and surrounding area found not to be used by golden plover. The EIAR also concludes that suitable habitat on the site is unlikely to be utilised by golden plover for roosting due to its fragmented nature. Hen harriers were observed twice during two years of surveys, and therefore considered unlikely to be utilising the study area for roosting or breeding. There is also limited suitable habitat within the 500m turbine buffer that would be suitable for hen harrier roosting or breeding. There were a small number of observations of herring gull flying through the site, and the EIAR concludes they may occasionally forage in agricultural fields within the site. This habitat is common in the area. In relation to kestrel, survey

data indicates that the site is used for foraging. The proposed development will result in the loss or alteration to kestrel habitat utilised on the site for hunting (agricultural and open scrub mosaics / hedgerows), with a moderate significance of effect anticipated in the short-term, reducing to slight over the long term, in consideration of the abundance of similar habitat in the surrounding area. Lesser black-backed gull was observed frequently during surveys, and is likely to occasionally forage in agricultural fields on the site, however there site does not contain breeding habitat for gulls and similar foraging habitat is common in the general area.

11.12.35. Mallard were recorded flying though the site however there is no suitable habitat for this species on site. The site is not considered important for peregrine as there were low numbers recorded and there is a lack of suitable nesting habitat. The EIAR states that the agriculturally improved grassland in the majority of the 500 m turbine buffer is largely unsuitable for supporting breeding waders, although there are some less managed fields and occasional patches of wet ground offering potential habitat for breeding snipe. Moderate effect arising from disturbance of snipe is anticipated at a local level. Effects on open agricultural habitats potentially used for foraging or breeding will be minimal and these habitats are common in the general area. While sparrowhawk were recorded in the area, no breeding sites were recorded during surveys and although there will be loss of suitable hunting habitat for this species, these habitats are common in the wider area, particularly conifer plantation margins.

11.12.36. The EIAR identifies that many birds, are known to acclimate to disturbance and will likely continue foraging in other parts of the site away from areas of disturbance, with some birds being tolerate of human presence or showing habituation to the presence of wind farms. The EIAR outlines that while disturbance could occur to hunting birds (hen harrier, kestrel, peregrine, sparrowhawk etc.) such disturbance would be temporary, localised, and large areas of the site and surrounding area would remain available for use.

11.12.37. The risk of collision with the proposed wind turbines is identified with respect to buzzard, golden plover, herring gull, kestrel, lesser black-backed gull, mallard, peregrine, snipe and sparrowhawk. However, the EIAR survey data demonstrates that numbers of these birds are low on the site. The absence of breeding hen harrier significantly reduces the likelihood of risk of collision for that species. Golden plover, herring gull, kestrel, lesser black-backed gull, mallard, peregrine, snipe and hen harrier

also have high avoidance rates in relation to wind turbines. With respect to buzzard, it is noted that best available knowledge suggests mortality due to wind farms is not sufficient to cause significant population declines (Table 5-60 EIAR). Published fatality rates in relation to sparrowhawk at wind turbine sites is low and the EIAR concludes that in light of this, and the low recorded activity at the site, the risk of collision is extremely unlikely for this species.

11.12.38. Mitigation is required to prevent indirect effect upon foraging habitat for birds, that might otherwise occur via pollution of watercourses.

11.12.39. In terms of residual effect with the mitigation summarised above in place, no significant negative effects are anticipated with respect to biodiversity.

11.12.40. Direct and Indirect Effects Conclusion

11.12.41. Having regard to the examination of environmental information in respect of biodiversity, in particular the EIAR provided by the applicant and the submissions during the course of the appeal, it is considered that the main direct and indirect effects on biodiversity are as follows:

- Direct loss of habitat over the area covered by proposed roads and the footprint of proposed turbines and other proposed infrastructure (including substation), along with associated vegetation clearance buffers. Vegetation clearance areas will become different habitats. Hedgerows to be re-instated will utilise locally sourced native species. Improved agricultural grassland will recolonise naturally. With the application of mitigation outlined in Chapter 7 of the EIAR Hydrology and Water Quality, there will be no significant loss of aquatic habitat. Implementation of the invasive species management plan (Appendix 5-8 EIAR).
- Measures to protect red squirrel and pine marten. Pre-clearance checks to protect Irish Hare, Pygmy Shrew and Hedgehog. Pre-construction survey for badgers. Permanent loss of habitats used by foraging and breeding mammals. Implementation of mitigation reduces residual impacts to Long-term, Imperceptible Negative Reversible Impacts in the local context.
- With respect to bats, risk of fatality from collision and/or barotrauma events to foraging and/or commuting high risk species will be reduced by mitigation. Not Significant-Slight Residual Negative Reversible Impact in the Local Context,

with the favourable conservation status (FCS) of bat species being unaffected and all species confirmed or expected within or near the study areas predicted to persist.

- Re-confirmatory survey for Snipe at proposed turbine locations. Residual impact on Snipe imperceptible at a national scale and slight at the local level. Monitoring programme to be implemented to assess the degree of any barrier effect on avifauna in addition to monitoring of any bird fatalities. With implementation of this mitigation, impact will be Slight Imperceptible Reversible upon birds.
- Impact upon aquatic ecology and fisheries will be effectively reduced to an imperceptible negative impact with the implementation of proposed mitigation measures.
- Residual impact for other species identified as Short-term Slight Reversible at a site level.
- Overall, no significant residual effects.

11.12.42. I concur with the conclusions reached in the EIAR with respect to impact upon biodiversity. With the application of mitigation as set out above, no significant negative direct or indirect effects upon biodiversity will arise from the proposed development.

11.13. Land, soil, water, air and climate

11.13.1. Issues Raised

11.13.2. Submissions have raised concern regarding the potential for emissions to soil, water or air during the course of the appeal which is addressed below. Some of these matters that relate specifically to designated European sites are addressed as part of my Appropriate Assessment in section 10 of my report above.

11.13.3. Context

11.13.4. Soils, geology and hydrogeology are addressed in Chapter 6 of the EIAR. This sets out the methodology, guidance and investigations that have informed the assessment of potential impacts. Investigations included walkovers, peat depth probing and slope stability assessment, as well as recording of GPS co-ordinates. Hydrology and water quality are addressed in Chapter 7 of the EIAR. This describes the desktop study and

walkover surveys that have informed the assessment of potential effects. Air and climate are addressed in Chapter 14 of the EIAR and includes an outline of background legislation and guidance that relate to the assessment of impact upon air and climate.

11.13.5. Baseline

11.13.6. The baseline condition for soils, geology and hydrogeology is described in section 6.3 of the EIAR and a summary of the main features is outlined here. The subject site is predominantly underlain by Glacial Till deposits derived from sandstone and siltstone, with frequent areas of bedrock outcrop or subcrop. Blanket Peat is situated along the western and southern margins of the site, however there is no infrastructure located at or near Blanket Peat. Groundwater vulnerability for the site is predominantly 'High' with some areas of 'Extreme' vulnerability and 'X-Rock at or near Surface'. The site lies within the Ballinhassig East Groundwater Body, which has an overall risk of under 'Review'. There is no karst features recorded within the site or wider study area. The overburden deposits of till and peat generally have low permeability and may act as a confining layer preventing free movement of surface water to the underlying aquifer. The proposed borrow pit is located within a rock outcrop area to the southern part of the site, close to proposed turbine T6. It will be used for the excavation of material for the construction of the proposed access tracks and hardstanding areas. The site topography is formed of gentle to moderate generally sloping down to the south, with slope gradients increasing along the northern and north-eastern margins of the site, becoming steep to extremely steep sloping towards the north and northwest. The site is generally categorised as 'Low' to 'Moderately Low' with respect to GSI Landslide Susceptibility, with proposed turbine locations T5 and T6 categorised as 'Moderately High'. These locations are within 'bedrock outcrop or subcrop' with gentle to moderate slopes and no evidence of historic slope instability. The EIAR therefore concludes that the risk of landslide at T5 and T6 is negligible and the GSI rating does not reflect actual ground conditions. While there is an area of the site with a 'High' landslide susceptibility, there is no proposed infrastructure in that location.

11.13.7. The baseline condition for hydrology and water quality is described in section 7.3 of the EIAR. The hydrometric area no.19 (Lee, Cork Harbour and Youghal Bay) and South Western River Basin District are the closest river networks to the site. The site is located in the SW_Lee228Bride_Bride_3 Upper and SW_Lee228Main_1Buingea

waterbody catchments, the Lee (Cork)_SC_050 / 030 sub-catchments, and the Bride (Lee_010 / 020) / Cummer_010 sub-basins. There are no natural lakes or reservoirs within the site, however there is a man-made surface water body in the eastern part of the site, previously associated with quarry workings. The Bride waterbody, a tributary of the River Lee, and the Cummer, both have a Water Framework Directive water quality status of 'good' and are classified as 'not at risk'.

11.13.8. The baseline condition for air and climate is described from section 14.3 of the EIAR. Measurements of existing particulate matter, sulpher dioxide and nitrogen dioxide are described for the study area, as well as climatic records for the area.

11.13.9. Potential Effects in the Absence of Mitigation

Table 11.13.1: Summary of Potential Effects Land, Soil, Water, Air and Climate

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**
Soils, geology and hydrogeology	
Do Nothing	Current land uses would continue for the foreseeable future and the impact on the Soils, Geology & Hydrogeology would remain unaltered.
Construction	Direct effects to geology include: Soil compaction due to movement of construction traffic which could lead to an increase in surface water runoff due to reduced infiltration and subsequent increased erosion of overburden deposits. Potential for spills and leaks from the storage and use of fuels and oils for plant and machinery, which could contaminate underlying exposed soils. Exposure of imported engineering fill and excavated soils to wind and rain, which could lead to deposit of silt in streams, indirectly impacting surface water quality.

	Extraction of rock from off-site quarries reduces the availability of this exhaustible resource. Direct impact to hydrogeology include: Potential for groundwater pollution from removal of overburden deposits. Increased vulnerability to aquifer to groundwater pollution as overburden is removed, reducing the level of protection from groundwater pollution. Potential for silt infiltration to groundwater from increased surface runoff and reduced protection of aquifer. Soil erosion from exposed soils in excavations could impact underlying groundwater aquifer. Reduction in groundwater levels from dewatering excavations. Direct impact associated with potential slope instability and failure may include: Potential for slope failure from removal and deposition of landslide/slope failure material and exposure of underlying overburden deposits and bedrock to increased surface water runoff and subsequent increased erosion. Slope failure could potentially result in an influx of acidic and/or peat laden waters into downgradient surface water features, decreasing the receiving water's pH values, impacting groundwater quality in the underlying Locally Important Aquifer and any groundwater abstractions in the vicinity of the landslide event.
Operation	Potential direct effects include: Minor accidental leaks or spills of fuel/oil associated with maintenance traffic.

	Potential for spills/leaks of oils/battery fluids from oil colling of transformers (grid transformer in substation and within each wind turbine), contaminating soils and groundwater. Potential indirect effects include: Intermittent minor demand on local quarries associated with granular material to maintain access tracks.
Decommissioning	Potential impact similar to those associated with construction but of reduced magnitude.
Cumulative	Table 6-15 of the EIAR identifies potential cumulative impact from other developments. This includes 2 residential developments, a wastewater treatment scheme and 4 other wind farms located a distance of between 8km and 15km from the site. Potential cumulative effects relate to impact upon groundwater, subsoils and bedrock. No significant impact is identified. Other cumulative impacts identified relate to the potential for contamination and overburden collapse. In addition, the importation of engineered fill from licenced quarries will be required, should these coincide with demand for imported aggregate for construction works at other development locations there would a cumulative impact in terms of demands placed on local quarries for aggregate. The excavation of cable trenches along the AGCR could also result in cumulative impact, however excavations are shallow and are proposed predominantly along existing roads. In addition, tree felling will be required over a relatively small swath of forestry to the far western extent of the AGCR. These activities will have an impact, albeit limited, on the underlying geological and hydrogeological receptors.
Hydrology and Water Quality	

Do Nothing	The site would remain as the current land use for the foreseeable future. The hydrology of the site would remain as it is described in the baseline above. Surface water drainage and infiltration to ground would continue as it is currently, with no impact on either surface or groundwater.
Construction	Potential direct effects include the following: Change of land use to less permeable surfaces could contribute to increased runoff to receptor waterbodies outlined above. Sediment laden water as a result of earthworks, entering surface waters and subsequently waterbodies via the drainage network, affecting water quality, aquatic ecology and fish stocks. A significant negative effect. Release of hydrocarbons from vehicles, generators, storage tanks and heavy machinery leading to pollution of groundwater, surface water and watercourses. Potential indirect effects include the following: Cement based products could lead to contamination of receiving waters, representing a significant risk to the aquatic environment. Biological contamination from sanitary waste leaking from welfare units could contaminate receiving waters.
Operation	Potential for indirect effect from pollution arising from spills and leaks of fuel, oil and chemicals from vehicles and maintenance works, and from transformer oil.
Decommissioning	Potential impact similar to those associated with construction but of reduced magnitude.
Cumulative	Table 7-8 of the EIAR identifies potential cumulative impact from other developments (as per above in relation to soils). Potential cumulative effects relate to contamination of

	groundwater and runoff from the site, entering watercourses and resulting in negative effects upon water quality, aquatic ecology and fish stocks. Impacts from associated works including the AGCR are also considered in the EIAR. Cumulative impact in the absence of mitigation is anticipated to be a negative effect of slight to not significant.
Air and Climate	
Do Nothing	In the absence of the proposed wind farm, local air quality and the microclimate will remain unchanged. On a national scale there will be an increase in greenhouse gas emissions if increasing future electricity needs are not met by alternative renewable sources which has the potential to contribute to air pollution and climate change. Lost opportunity to contribute to Ireland's commitments under the Kyoto Protocol and to meet national targets set out in the Climate Action Plan. In the absence of the proposed substation, local air quality and microclimate will remain unchanged. If the wind farm progressed but the substation did not, there will be short-term negative impacts on air quality along the AGCR. Local residents living adjacent to the trenching and ducting works would be impacted by emissions.
Construction	Potential for dust from earthworks, construction of new access tracks, the temporary storage of excavated materials, the movement of construction vehicles, loading and unloading of aggregates/materials and the movement of material around the site. Dust can lead to elevated PM_{10} and $PM_{2.5}$ concentrations and may also cause dust soiling. Construction vehicles and plant could increase concentrations of compounds such as NO_2, Benzene and PM_{10}. Potential for dust soiling from trucks on local routes and emissions from plant and machinery.

	Potential for greenhouse gas emissions to the atmosphere during construction.
Operation	Positive impact on air quality and climate due to the displacement of fossil fuels as an energy source. Table 14-9 of the EIAR sets out the Carbon Balance Results for the project; in summary the payback time for the manufacture, construction, and decommissioning phases (including carbon losses from soil, vegetation clearance etc.) of the proposed wind farm is expected to be 1.2 years. While the proposed substation would not in of itself offset carbon emissions, it constitutes associated infrastructure to enable the offset of carbon emissions related to renewable energy projects.
Decommissioning	Truck movements and use of plant associated with removing the proposed wind turbines, earthmoving to cover foundations and landscaping will result in emissions and dust, but to a significantly less degree than during the construction phase.
Cumulative	Potential for cumulative negative impact to air quality if a large development located in the vicinity of the site was constructed at the same time. However, with the implementation of mitigation, no significant negative effects will occur. Section 14.7.3 identifies nearby developments. In operation, the proposed development alongside other energy developments within 20km will have cumulative long-term, positive effects on air quality and climate. Potential for increased dust and emissions of NO_2, Benzene and PM_{10} if the construction of the AGCR occurs resulting in short term, slight negative impact. Short term, slight negative cumulative impact is also anticipated with respect to the turbine delivery route, arising from soiling effects, PM_{10} deposition and vegetation effects.

11.13.10. Mitigation

11.13.11. Mitigation associated with potential impact upon soils, geology and hydrogeology are addressed in section 6.6.1 of the EIAR and summarised below:

- Primary mitigation relates to the design of the proposed development site in terms of locating the turbines, access roads, material storage areas and other site infrastructure within an area comprising predominantly agricultural pastoral land where the soils are generally described as 'well drained'.

During construction mitigation includes:

- A design risk assessment at detailed design stage to determine risk levels for the construction, operation and maintenance and decommissioning of the works. Identified impacts will be minimised by the application of principles of avoidance, prevention and protection.
- A detailed method statement for each element of work to be prepared by the contractor prior to works being carried out.
- Suitably qualified and experienced geotechnical personnel to supervise excavation and earthworks.
- Programming of works so that earthworks are not scheduled during severe weather conditions.
- Preparation and implementation of a Construction Environmental Management Plan (CEMP).
- Phased construction to reduce the amount of open, exposed excavations at any one time.
- Retention of excavated overburden for reuse onsite.
- Measures to mitigate against erosion of exposed soil or rock, with addition support added where appropriate and protection against ingress of water.
- Measures to minimise and control sediment laden runoff.
- Oil (including fuels/lubricants/hydraulic fluids) spill protection measures and emergency spill response procedure.

- Measures to address slope stability issues, including supervision by experienced geotechnical engineer or engineering geologist, and hydrologist or drainage engineer.
- Measures to protect groundwater.

During operation mitigation includes:

- Fuels, lubricants and hydraulic fluids for equipment used on the site will be carefully handled to avoid spillage.
- Any spillage of fuels, lubricants or hydraulic oils will be immediately contained, and the contaminated soil removed from the site and properly disposed of.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling.
- Appropriate spill control equipment, such as oil soakage pads, will be kept within the refuelling areas and in each item of plant to deal with any accidental spillage.

Decommissioning:

- Mitigation measures applied during decommissioning will be similar to those applied during construction where relevant.

11.13.12. Mitigation associated with potential impact upon hydrology and water quality are addressed in section 7.7 of the EIAR and summarised below:

During construction:

- Surface Water Management Plan including Surface Water Quality Monitoring Programme.
- Best practice construction methods to minimise impacts on water quality.
- Refuelling of construction vehicles off-site wherever possible.
- Fuel containers to be stored within additional secondary containment e.g. bund for static tanks or drip trays for smaller containers.

- Taps / nozzles for fuels and storage containers for oils to be fitted with locks to control use.

During operation:

- Implementation of Surface Water Management Plan, following the concept of a multi-stage SuDS 'treatment train'.
- Interceptor drains upslope of access tracts and hardstanding areas to divert surface water runoff from undeveloped land to disperse within open ground.
- Proposed swales to intercept surface water runoff from access tracks and hardstanding areas, with silt traps provided upstream of outfalls from roadside swales.
- Settlement ponds to allow suspended solids to fall out prior to discharge. In the event of accidental spillages, the outfall from a settlement pond can be blocked to contain the spillage.
- Inspection of drains, cross-drains and culverts for blockages; outfalls to existing field drains and watercourses, existing roadside swales for obstructions; progress of re-vegetation.
- Testing of water quality at outfalls at appropriate intervals.

Other:

- Silt protection procedures, similar to during construction will be re-instated for decommissioning.
- Measures to increase impermeable area, infiltration and therefore reduce surface water. Watercourses to be sized to accommodate flows during the 1 in 100-year storm event. Measures to ensure no increased risk of flooding.

11.13.13. Mitigation associated with potential impact upon air and climate are addressed in section 14.5 of the EIAR and forms the implementation of a Construction and Environmental Management Plan (CEMP) (Appendix C EIAR), with measures to reduce and manage emissions and dust generated during construction, as summarised below:

- Finish of access roads with graded aggregate to prevent dust.
- Water spray of work areas and haul roads to supress dust.
- Covering of loads.
- Re-vegetation to stabilise surfaces as soon as practicable.
- Management of the access and egress of construction vehicles.
- Wheel washing, and vehicles / machinery to be in good working order.
- Implementation of dust control plan.
- Engines switched off when stationary.
- Regular servicing of machinery to minimise emissions.

11.13.14. Direct and Indirect Effects Assessment

11.13.15. Soil, geology and hydrogeology:

11.13.16. The subject site is not a sensitive site in terms of soil, geology and hydrogeology, in addition, it has a low risk for landslide. Potential impacts have been identified associated with proposed excavation works to facilitate the development. No significant effects were identified prior to the application of mitigation.

11.13.17. Hydrology and water quality:

11.13.18. The site is not at risk of flooding and the proposed development will have no impact upon flood plain storage or fluvial flood flow routes (section 9.8 above also refers). Minimal impact is anticipated with respect to increased run-off resulting from increased impermeable area. However, in order to respond to climate change, mitigation is included to ensure that the risk of fluvial and surface water flooding to downstream areas is not increased. Existing drainage features will be retained, realigned or replaced as necessary. There is no proposed discharge of foul flows from welfare units, with water retained in tanks and removed by a contractor. Potable water will also be transported to site for storage with no connection to the network. SuDS best practice will be followed, including incorporation of a rainwater harvesting tank from the roof area of control buildings for the substation. There are no natural waterbodies within the site, however there is man-made drainage / surface water bodies are evident, with one situated to the eastern part of the site. Proposed turbines are

situated a minimum of 50m from any main surface water receptor and there is minimal formal drainage within the site area, with runoff dispersing via infiltration, evapotranspiration and overland flow. With respect to objectives set out in Article 4 of the Water Framework Directive, I have outlined the baseline hydrological conditions of site / surrounds above, and I am satisfied that the proposed development will not result in a risk of deterioration on any water body (rivers, lakes, groundwaters, transitional and coastal) either qualitatively or quantitatively or on a temporary or permanent basis or otherwise jeopardise any water body in reaching its WFD objectives and consequently can be excluded from further assessment.

11.13.19. Air and climate:

11.13.20. Construction of the proposed development will require excavations, vegetation clearance and earthworks which will generate direct effects from dust and other emissions to the air. Dust can be reduced and managed to ensure that effects are not significant. Emissions will also result from construction vehicles and the use of plant, however given the scale of the works and length of time, the impact will be imperceptible. Impact during construction will be temporary and localised and is an inevitable consequence of development projects, that with the appropriate mitigation, will not result in significant adverse effects. During operation, there will be no significant direct emissions to the atmosphere. The submitted EIAR also describes the carbon gain that will result from the proposed development due to avoided emissions due to displacement of emissions associated with fossil fuel energy generation. This has been calculated taking account of forestry required to be felled for the development, manufacture, construction and decommissioning phases. In total, it is estimated that between 709,625 and 851,550 tonnes of CO_2 emissions will be displaced over the proposed twenty five-year lifetime of the wind farm, resulting in a direct positive effect upon climate as a result of operation of the proposed renewable energy development. I note that Section 15 of the Climate Act 2015 (as amended) includes the obligation that “a relevant body shall, in so far as practicable, perform its functions in a manner consistent with… the Climate Action Plan… National Climate Objective… etc”, which includes An Board Pleanála. National Policy Objective 70 under the NPF First Revision 2025 also sets out that renewable energy use and generation at appropriate locations should be promoted to meet national objectives towards achieving a climate neutral economy by 2050. I am satisfied that the proposed

development, as a renewable energy scheme, will facilitate reduced reliance upon fossil fuels and contribute towards national goals with respect to climate action, and is consistent with the climate action plan.

11.13.21. Direct and Indirect Effects Conclusion

11.13.22. Having regard to the examination of environmental information in respect of land, soil, water, air and climate, in particular the EIAR provided by the applicant and submissions during the course of the appeal, it is considered that the main direct and indirect effects for this topic are, and will be mitigated as follows:

- Soil, geology and hydrogeology: While no significant negative effects were identified in the absence of mitigation, residual impact will be further reduced with the application of the mitigation measures highlighted above. No significant negative residual effects are anticipated. In addition, there are no significant, negative cumulative effects identified associated with other existing or permitted developments in the vicinity.
- Hydrology and water quality: Increases in surface water runoff will be managed at all stages of the development through a drainage network designed to retain high flows during storm events, allowing natural dispersal and ensuring no uncontrolled discharge to downstream areas. Drainage features will also benefit water quality through filtration and settlement of suspended solids to isolate pollution from runoff. Overall impact will be not significant upon hydrology and water quality with the implementation of this mitigation.
- Air and climate: With the implementation of mitigation measures summarised above, the proposed development will result in slight to moderate residual impact during construction. This impact relates to dust emissions during construction activities which will be localised in nature and temporary. No significant impacts are anticipated upon air quality during construction. Similar impacts will be experienced in the decommissioning phase but to a lesser extent. During operation, residual impact will be positive upon air quality due to the avoidance of emissions from fossil fuel generators.
- In relation to climate, due to the scale of the development and activities associated with it, impact during construction will be imperceptible. During

operation, there will be positive residual impact upon climate from the proposed wind farm in terms of displacement of fossil fuel energy and generation.

11.13.23. I concur with the conclusions of the EIAR with respect to land, soil, water, air and climate as described above and consider that with the application of mitigation as described, impact will be within acceptable parameters.

11.14. Noise and vibrations

11.14.1. Issues Raised

11.14.2. Extensive submissions / appeal grounds have been received regarding concern that noise associated with the operation of the proposed wind farm will have significant negative impact upon surrounding sensitive noise receptors, particularly residential dwellings proximate to the site. Reference is also made to the existing Garranereagh wind farm in the vicinity of the site, which residents describe as an existing nuisance with respect to noise, with concern that the proposed development will exacerbate this. The potential for adverse noise effect upon the character / setting of the area and upon livestock is also outlined. I also address submissions with respect to noise in section 9.4 of this report above in relation to impact upon amenity which should be read in conjunction with this section of my report.

11.14.3. Context

11.14.4. Chapter 9 of the EIAR describes potential effects arising from the proposed development with respect to noise and vibration. This describes the methodology, relevant guidance and criteria that have informed the assessment. The EIAR characterises the receiving noise environment and outlines a prediction of the noise impact associated with both the construction and operation of the proposed development, with an evaluation of this impact and associated mitigation. The study area for the assessment is informed by the 2006 Department of the Environment, Heritage and Local Government, Wind Energy Development Guidelines, which during operation, includes all residential dwellings with a predicted noise level greater than 35dB L_{A90}, which is also in accordance with the UK Institute of Acoustics', A Good Practice Guide to the Application of ETSU-R-97 for the Assessment at Rating of Wind Turbine Noise (2013). Excluding derelict properties, the study area includes 54 Noise Sensitive Locations (NSLs) (section 9.3.2 EIAR). A number of receptors were

identified as farm buildings which are not considered noise sensitive and therefore have not been considered as part of the assessment.

11.14.5. Noise predictions during operation have been determined in the EIAR using International Standard ISO 9613, Acoustics – Attenuation of Sound during Propagation Outdoors, based on short term down wind conditions. The assessment described in the EIAR is based upon a proposed turbine model, the Nordex N117, with a hub height of 72.5m. Predictions of the noise associated with the neighbouring Garranereagh Wind Farm operating in combination with the proposed development are considered in the assessment.

11.14.6. During construction vibration is generated by construction activities such as rock breaking and passing heavy goods vehicles. The nearest NSLs are sufficiently distant that vibration will not be perceivable by residents at their dwellings and building damage will not occur from construction incurred vibration.

11.14.7. During operation, vibration levels will be significantly below levels that would result in damage to the nearest buildings (including farm buildings) and is therefore scoped out.

11.14.8. Infrasound and Low Frequency Noise during have also been scoped out as wind turbines do not produce infrasound at amplitudes capable of causing annoyance, with reference to 'The measurement of Low Frequency Noise at Three UK Windfarms' page 4 of chapter 9 of the EIAR.

11.14.9. <u>Baseline</u>

11.14.10. The existing noise environment is described from section 9.4 of the EIAR. This describes the establishment of existing background noise levels at 4 NSLs, at locations monitored before submission of the original 2014 EIS for the application. These locations represent NSLs closest to the proposed development as well as representing different noise environments in the vicinity. Figure 9-2 and Table 9-3 of the EIAR illustrate and describe these locations and Appendix 9.1 of the EIAR presents detail on the baseline measurements and data analysis. Baseline measurements are used to determine the appropriate noise limits for the proposed development during construction and operation.

11.14.11. During construction, the EIAR refers to British Standard BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Nosie, with use of existing ambient noise levels to determine the threshold limits to be applied. The EIAR describes a relevant noise limit of 65 dB LAeq,1hr for operations exceeding one month, with elevated noise levels associated with the grid connection works for a shorter duration (less than 3 days).

11.14.12. During operation, the EIAR refers to the 2006 Wind Energy Guidelines, with respect to its recommendation that a limit of 35 to 40 dB L_{A90} should apply where low noise background levels are found (section 9.4.2 EIAR). The guidelines also state that an appropriate balance must be achieved between power generation and noise impact and a night time limit of 43 dB should apply. Reference is also made to ETSU-R-97 and the Institute of Acoustics' Good Practice Guide to same, which outlines contextual considerations in determining what an appropriate fixed noise limit should be. On this basis, the EIAR describes that a fixed limit of 40 dB L_{A90} for low background noise conditions has been applied at the quietest locations, increasing to 45-47.1 dB L_{A90} at other locations, with a night time limit of 43 dB, during operation of the proposed development.

11.14.13. Appendix 9.1 confirms in the monitoring protocol, that baseline noise measurements were undertaken on 15th September to 13th October 2022 and 25th October to 15th November 2022. The measurements were compared to those measured in 2014 taking into account wind speed, with the 2022 prevailing daytime noise levels within 2dB of that measured in 2014 up to 5m/s. At higher wind speeds a greater difference was exhibited. Results for both years were in a similar range and below the LA90 30dB for the same range of windspeeds and therefore both sets of data are concluded in the EIAR to give similar noise limit criteria for the daytime limit. The noise criteria for the subject site are based in the EIAR on the quietest noise monitored at locations labelled H40 and H71.

11.14.14. Potential Effects in the Absence of Mitigation

Table 11.14.1: Summary of Potential Effects Noise

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**

Do Nothing	Noise environment remains unchanged by the proposed development.
Construction	Construction noise will be generated by a range of activities, including deliveries and/or removal of material to and from the site, preparation of access roads, excavation of material from borrow pits, preparation of hardstands and drainage, pouring of foundations, installation of wind turbines and works associated with grid connection. Potential noise generation associated with the on-site borrow pit and removal of forestry is considered in the EIAR. Works associated with the grid connection works are addressed as part of potential cumulative impacts. The most affected NSL during construction is at H1. The predicted noise at H1 is dominated by traffic on the adjacent access track. There are closer NSLs to construction related activities, however noise at those locations is predicted to be lower. No blasting is required at the proposed borrow pit, with a crusher/ripper expected to be required. Assuming all plant is operating at the borrow pit, the predicted cumulative noise at H1 is 56.8 dB and at H48 is 53.7 dB $L_{Aeq,1hr,}$ and therefore below the daytime noise limit of 65 dB $L_{Aeq,1hr}$ (in all locations). Noise levels associated with installation of the proposed turbines and construction of the proposed substation is also below 65 dB $L_{Aeq,1hr}$ at all locations. With respect to noise associated with the preparation of access roads, hardstanding and drainage, assuming all construction activities occur simultaneously, the predicted noise level at H1 is 67.5 dB $L_{Aeq,1hr}$ (above the 65 dB $L_{Aeq,1hr}$ noise limit) and at H48 55.8 dB $L_{Aeq,1hr.}$ Noise associated with the preparation of the proposed wind turbine foundations is predicted to affect NSL H1 and H36 the

	most. Assuming all construction activities for the foundations occurring simultaneously, the predicted noise level at H1 is 65.4 dB $L_{Aeq,1hr}$, just above the 65 dB $L_{Aeq,1hr}$ noise limit, with all other locations below this noise level.
Operation	During operation, noise will be generated by the proposed wind turbines as they rotate. Predicted noise levels in the EIAR are presented on a worst-case scenario with NSLs downwind of the proposed development. In practice, NSLs will not be downwind of all noise sources and actual noise levels will be lower. The predicted noise levels from the proposed development are below the daytime (40 dB) and night-time (43 dB) noise levels at all locations, except at NSL H36. At H36 the daytime limit is exceeded by 0.5 dB at 7 and 8m/s and the night time limit is exceeded by between 1.8 to 2.5 dB, however this is a stakeholder property. At H34, while the daytime limit is met, the night time limit is exceeded by 1.5dB which is not significant and H34 is also a stakeholder property (as referred to in 9.5.5.2 of the EIAR). At some NSL locations, particularly those west of the site and away from the existing Garranereagh windfarm, the introduction of a new source of noise into the soundscape generated by the proposed development, is expected to have a long-term moderate significance of impact with respect to noise, upon the closest dwellings.
Decommissioning	Noise producing activities during decommissioning will be similar to construction, but with a lesser extent of impact.
Cumulative	Section 9.5.5 of the EIAR considers potential cumulative noise impacts. There is a potential for construction noise limits to be exceeded where a NSL is within 20m of the alternative grid connection route (AGCR) works. In such circumstances

	specific mitigation measures are included in the EIAR for the AGCR. During operation, when cumulative noise from both the existing Garreneragh Windfarm and the proposed development is considered, noise limits are exceeded at H28 (night time by 4.2 to 6.6 dB day time between 2.2 and 7.2 dB – stakeholder property for the Garreneragh windfarm), at H34 (night time by 1.5 dB above 10m/s day time limit met – stakeholder property), and at H36 (night time by 2.8 dB above 10m/s day time limit met – stakeholder property). The EIAR states that as the noise modelling assumes NSLs are downwind of all turbines, and this won't occur all the time, the actual noise level will be lower with the NSL is upwind or cross wind of the proposed wind farm. It is noted on page 42 of the EIAR that with respect to H28 that this location is a Garreneragh stakeholder property and exceeds noise limits as a result of the adjacent Garreneragh windfarm. When noise from the Proposed Wind Farm only is considered, noise levels are within limits at this property. No noise mitigation is proposed at this location as the noise levels are determined by Garreneragh Windfarm.

11.14.15. Mitigation

11.14.16. Section 9.5.6 of the EIAR describes mitigation measures to address impacts arising from noise.

11.14.17. Mitigation measures during construction include the following:

- Construction hoarding to be located between property H1 (situated to the north of the access track) and the adjacent access road for the duration of the construction works.
- Restricting movements along access routes to standard working hours and excluding Sundays, unless specifically agreed otherwise.

- Community Liaison Officer to inform residents of construction activities.
- Construction works on site to be carried out in accordance with the guidance set out in BS 5228:2009+A1:2014, and the noise control measures set out in the Construction Environmental Management Plan (CEMP) within the EIAR.
- Maintenance of plant to minimise noise.
- Fitting of all vehicles and mechanical plant with effective exhaust silencers and maintained in good working order. Shutting down / throttle back of machinery not in use.
- Construction hours restricted to 07:00 – 19:00 Monday to Saturday, with works outside these hours subject to agreement with the local planning authority.
- Construction noise levels to be below the relevant noise limit of 65 dB $L_{Aeq,1hr}$ for operations exceeding one month.
- Where temporary elevated noise levels associated with grid connection works occur for an extended period with impact to NSL, a temporary barrier or screen to be used to reduce noise levels at the particular NSL below the noise limit required. In addition, limiting the number of plant items operating simultaneously.

11.14.18. Mitigation measures during operation include the following:

- No mitigation proposed. Impact to property H28 results from operation of the Garreneragh windfarm, and the property is a Garreneragh windfarm stakeholder property. Exceedances anticipated to occur at properties H34 and H36 will not be mitigated as these are stakeholder properties who are aware and happy to proceed on this basis.

11.14.19. During decommissioning, mitigation will be similar to construction phase.

11.14.20. <u>Direct and Indirect Effects Assessment</u>

11.14.21. Predicted noise during construction activities has the potential to exceed noise limits in BS 5228-1:2009+A1:2014 for one property, H1, situated immediately to the north of the access track. Noise impacting this property would be dominated by vehicle movements on the access track to the north of the site. The predicted noise level is above the 65dB $L_{Aeq,1hr}$ for property H1, assuming all construction activities required

for the preparation of the access road, (as well as the preparation of the proposed wind turbine foundations to a lesser extent), occur simultaneously. In practice, the EIAR states that simultaneous operation will not occur. It is also proposed to locate construction hoarding between this property and the access track to reduce noise. This is a direct adverse impact of temporary duration. Construction and decommissioning noise levels are predicted to be below the relevant noise limit of 65dB $L_{Aeq,1hr}$ for activities exceeding one month and are therefore not concluded to be significant.

11.14.22. During operation, predicted daytime and night time noise levels from the proposed development are exceeded at property H36, which is a stakeholder property. At H36 the daytime limit is exceeded by 0.5 dB at 7 and 8m/s. The night time limit is exceeded by between 1.8 to 2.5 dB. While the daytime noise limit is met at stakeholder property H34, night time limits will be exceeded by 1.5dB which is not significant. It is expected that there will be a long-term moderate significance of impact on the closest dwellings to the Proposed Wind Farm. This is particularly for those west of the site away from the existing Garranereagh windfarm, with the introduction of a new source of noise into the soundscape.

11.14.23. During operation, cumulative exceedances in noise limits are also predicted at H28, associated with noise from an existing windfarm at the Garreneragh. Noise exceedances at property H28 are as a result of the Garreneragh windfarm and not the proposed development.

11.14.24. The noise modelling assumes that NSLs are downwind of all wind turbines, which will not occur all the time in practice.

11.14.25. <u>Direct and Indirect Effects Conclusion</u>

11.14.26. Having regard to the examination of environmental information in respect of noise and vibration, in particular the EIAR provided by the applicant and submissions during the course of the appeal, it is considered that the main direct and indirect effects for this topic are, and will be mitigated as follows:

- During construction, direct negative effect arising from noise on a temporary basis, however noise will be within acceptable ranges. With the application of mitigation, primarily formed of working practises as outlined in the Construction

Environmental Management Plan appendix 2.2 of the EIAR, no significant residual effects.

- During operation, predicted noise levels are modelled on a worst-case scenario, assuming noise sensitive locations are downwind of noise sources, however actual noise levels will be lower. Predicted daytime and nighttime noise levels are below limits in all locations, with the exception of a stakeholder property H36 where exceedance is not significant, daytime exceedance is also predicted at H34 and is also not significant. Cumulative exceedance is predicated at H28 as a result of the Garreneragh wind farm (page 42 of Chapter 9 of the EIAR refers to the same). Residual impact will be long-term and of moderate significance.

11.14.27. Overall, I concur with the EIAR and am satisfied that there are no significant residual negative impacts arising from the proposed development with respect to Noise and Vibration.

11.15. Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities)

11.15.1. Chapter 10 'Human Environment' of the EIAR addresses land use in section 10.5 and renewable, non-renewable resources and utility infrastructure in section 10.8. Chapter 13 of the EIAR concerns 'Telecommunications and aviation'.

11.15.2. Issues Raised

11.15.3. In relation to land use, submissions raise concern regarding potential impact upon the ability to use lands for livestock.

11.15.4. In relation to telecommunications and broadcasting, scoping for the EIAR indicates that all organisations, except RTÉ/Saorview, confirm no impact upon their network. RTÉ/Saorview state that proposed turbine T5 is impinging onto the 2nd Fresnel zone, but has missed the 1st Fresnel zone and therefore it is stated that this should be acceptable. It is however highlighted that there is a risk of interference to broadcast services in the area from Mullaghanish and it is requested that a protocol is signed between the developer and 2rn should the site go ahead.

11.15.5. I note submissions stating that there is interference associated with the existing Garranereagh Wind Farm upon WiFi signals at a nearby property, and concern is raised that the proposed development will exacerbate this issue.

11.15.6. Context

11.15.7. Section 10.5 of the EIAR describes the compatibility of the proposed land use with current land use at the site, with a description of potential effects arising.

11.15.8. Section 10.8 of the EIAR describes an overview of the material assets, specifically renewable, non-renewable and utility infrastructure in the vicinity of the proposed development site, as well as waste anticipated to be produced by the proposed development, and a description of potential effects. Consideration is given to potential impact upon mineral resources in the area and forestry.

11.15.9. Chapter 13 'Telecommunications and aviation' of the EIAR describes the methodology and assessment of potential impact upon telecommunications, including broadcasting and mobile/broadband services, and aviation services.

11.15.10. Baseline

11.15.11. In relation to land use, the proposed development site is primarily formed of agricultural lands (pastoral farming) accessed by existing agricultural entrances and tracks currently used for farming activities, as well as featuring small areas of forest and semi-natural areas. There are 113 dwellings located within 1.5km of the proposed turbines and 13 wind farms located within 20km of the subject site.

11.15.12. In relation to renewable, non-renewable and utility infrastructure, there are active and historic quarries and mineral occurring within 20km of the subject site. There are no mineral (metallic and non-metallic) occurrences within the site and an iron deposit is recorded approx. 1km from the site. GSI Aggregates database indicates low crushed rock aggregate potential across most of the site. Wind resource potential is average at the site. An existing windfarm of 4 turbines is located to the east, the Garranereagh Windfarm. An existing 110kV Macroom to Dunmanway overhead line traverses the site and is proposed to loop into the proposed substation.

11.15.13. The waste facilities currently in operation in proximity to the site are identified in Section 2.4.4 of Chapter 2 of the EIAR.

11.15.14. In relation to telecommunications and aviation, a desktop examination is described in the EIAR, alongside the results of consultation with relevant stakeholders. The EIAR refers to the Comreg siteviewer, which identifies the nearest telecommunication mast as being located near Teerelton, approximately 3km northwest of the proposed turbines. Three and Meteor (Eir) operate from this mast. No other telecommunications infrastructure was found during a desk based survey within 2km of the Proposed Development. The proposed development is located approx. 32km west of Cork Airport.

11.15.15. Potential Effects in the Absence of Mitigation

11.15.16. Table 11.15.1: Summary of Potential Effects Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities)

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**
Land use	
Do Nothing	Existing land use on the site would continue in its present form as agricultural land into the foreseeable future.
Construction	Agricultural pastures located within the footprint of the proposed development and for the creation of new access tracks will be disrupted permanently with respect to land use. Approximately 1.38km of existing agricultural access tracks are proposed to be upgraded and utilised during construction resulting in temporary interruption not land use during the construction phase. In general agricultural practice can continue on the site, however sections of land adjacent to proposed infrastructure may be temporarily inaccessible due to construction activities. TDR node upgrade activity will result in impact with street furniture and wall removal, temporary load bearing surfaces and vegetation trimming. Impact to the supply of electricity and telecommunications to homes and businesses as a

	result of temporary removal of services to accommodate turbine delivery. Transportation of oversized loads may impact on the public road. Temporary, not significant to slight negative effects.
Operation	The area of land that will change use from open field agricultural use to wind farm use will be approx. 2.7 hectares, consisting of turbine hardstands, access tracks, turning heads and meteorological mast. Long-term slight negative impact on available agricultural lands. proposed upgrade to, and provision of, access tracks will facilitate ongoing agricultural activity on the site with slight positive impact to agricultural land use. In the unlikely event of the need to transport a replacement or repair turbine component, use of the TDR will have slight temporary negative impact on residential land-use.
Decommissioning	Impacts will be similar to the construction phase but of a reduced magnitude. Turbine foundations will be covered over and allowed to re-vegetate naturally. Access tracks will be left in situ to continue to be used or agricultural and forestry uses. Above ground structures will be removed with the exception of the substation which will be taken in charge by ESB/EirGrid. Long term, slight, positive impact on forestry and agricultural uses at the site. Impact related to the removal of structures expected to be temporary, short-term slight, negative.
Cumulative	Appendix 1.2 of Volume 2 lists the projects/developments in the area of the subject site considered for potential cumulative impacts. Most are small scale and will have an imperceptible cumulative impact with the construction and operation of the proposed development. A consented

	windfarm, Carrigariek Wind Farm, and an the existing Garraneragh Wind Farm, in combination will have a cumulative impact on land use in the area with additional renewable energy land use to established agricultural use in the area. With non-significant impact. Temporary effects on land use will arise as a result of the installation of the AGCR along the grid route, however in the event that the AGCR is construction, the proposed substation will not be constructed, thereby reducing impact on land use. Impacts will not be significant.
Renewable, non-renewable and utility infrastructure; Waste	
Do Nothing	The proposed 25 MW wind farm would not contribute to reducing fossil fuel dependency. There will be a continuance of excessive greenhouse gas emissions and consumption of fossil fuels and the opportunity to harness wind energy capacity of the site would be lost.
Construction	Sourcing of additional aggregate where required (beyond that sourced from the proposed on site borrow pit), from quarries in the vicinity, with slight permanent negative impact on non-renewable stone resource, reducing to imperceptible in the long-term. Overall long-term positive impact in terms of carbon reduction and climate change, assisting Ireland in meeting its target of producing 80% electricity from renewable sources. No tree felling required, a neutral impact on timber resource at a national scale. Importation of materials and equipment will increase shipping traffic. Waste will be generated due to construction activities. Waste generated will be collected, source separated and

	stored in dedicated receptacles at temporary construction compounds. Waste will be reused on site where possible and suitable. Waste generated on site and disposed of in licenced facilities will have a slight negative impact on the capacity of the facilities identified.
Operation	Sight / imperceptible impact with respect to material assets arising from maintenance of access tracks and infrastructure requiring small amounts of imported fill. Direct effects arising from electricity generation will give rise to a reduction in fossil fuel reliance, giving long-term slight positive impact on renewable energy resource, and continuing to reduce Ireland's dependency on imported fuel resource. No significant volumes of waste will be produced during the operational phase, with waste management during any maintenance works, resulting in an imperceptible impact.
Decommissioning	Similar to the construction phase but of a reduced magnitude. Removal of above ground structures for windfarm. Turbine foundations and access tracks to be left in situ. Proposed substation to be taken in charge by ESBN/EirGrid having a long-term positive impact on electricity infrastructure in the area. Increased traffic numbers will have a temporary slight negative impact. Waste produced during the decommissioning phase will have a slight negative impact on the capacity of the licenced waste facilities used at the time of decommissioning.
Cumulative	Appendix 1.2 of Volume 2 lists the projects/developments in the area of the subject site considered for potential cumulative impacts. Most are small scale and will have an imperceptible cumulative impact with the construction and operation of the proposed development. There is a consented windfarm, Carrigariek Wind Farm, and an the

	existing Garraneragh Wind Farm. The electricity generating capacity of the Proposed Development, in combination with the consented solar farms and existing wind farms in proximity to the site, will have a long-term significant positive cumulative impact on utility infrastructure and renewable energy resource in the greater area and will have a positive impact on national renewable energy resources as well as reduction in requirements for the use of non-renewable fossil fuels.
Telecommunications and Aviation	
Do Nothing	No change to the existing telecommunications, broadcasting and aviation operations in the area.
Construction	Delivery of large turbine components has the potential to impact on existing overhead telecommunications lines for a short period of time if services are disconnected, temporarily removed, to facilitate turbine delivery. Resulting in brief to temporary localised negative impact on telecommunications provision during turbine delivery. Potential for aviation impact during late construction phase, when turbines placed in situ, and could be considered to be an obstacle to low flying craft.
Operation	Potential for negative impact to domestic broadcasting receivers due to signal scattering or signal delay as a result of the introduction of wind turbines to the landscape, although provides have not identified potential impact to their services. Potential for slight negative long-term effect to broadcasting services as a result. Wind turbines within 30km of a radio navigation aid have the potential to lead to electro-magnetic interference with aircraft signals. The proposed development is located 32km west of Cork Airport and therefore no effects identified.

Decommissioning	Potential for brief disconnection of overhead lines if large turbine components require removal.
Cumulative	Disruption of overhead telecommunications lines as a result of the TDR.

11.15.17. Mitigation

11.15.18. Mitigation related to land use is described in section 10.5.5 of the EIAR and primarily relates to designed in features to keep the operational footprint of the proposed development to the minimum necessary. Existing agricultural tracks have been incorporated into the design and new tracks sensitively designed. Cables will be installed underground. Implementation of the CEMP (Appendix 2.2 of Volume 2 of the EIAR) will control and minimise construction and decommissioning phase impact, and include updates to the public / stakeholders on activities which will affect access to lands.

11.15.19. Mitigation related to renewable, non-renewable and utility infrastructure, and waste is set out in section 10.8.5 of the EIAR and includes the following:

- Sourcing of non-renewable stone and fill locally to minimise transportation distances.
- Informing residents and business proximate to the works in advance of temporary removal of services and street furniture.
- Turbine delivery to take place outside of regular commuting hours and under Garda escort.
- A Construction Waste Management Plan as part of the CEMP for the proposed development (Appendix 2.2 of the EIAR), ensuring waste is managed in accordance with best practice.

11.15.20. Mitigation related to telecommunications and aviation is set out in section 13.2.1 of the EIAR and includes the following:

- RTÉ Transmission network Ltd have requested that a protocol be signed between 2RN and the developer should the development go ahead. The

protocol sets out the developer's obligation to correct any deterioration in television and radio signal reception.

- Remedial measures for houses in the immediate vicinity in relation to television reception, if required.
- The coordinates and elevations of the turbines will be supplied to IAA at the end of the construction phase.
- Aeronautical obstacle lighting scheme to be agreed with IAA in line with IAA's consultation response and applied to the proposed turbines.

11.15.21. Direct and Indirect Effects Assessment

11.15.22. Land use:

11.15.23. During construction, activities will disrupt normal use of the land in areas, however this will be on a temporary basis. The proposed development footprint has been refined to ensure minimal land take and allow normal agricultural use of the surrounding area to continue following completion of construction works. Upgrades to access tracks as part of the proposed works will benefit agricultural use of the lands. In relation to submissions raising concern regarding impact upon livestock, page 24 in Chapter 10 of the EIAR confirms that there are no peer reviewed studies indicating that wind energy development has a negative impact on the health of livestock and that there are numerous examples of renewable energy developments coexisting with the grazing of livestock (AWEA, 2019). No negative impact upon agricultural practices on lands adjacent to the site are predicted.

11.15.24. Renewable, non-renewable and utility infrastructure; and waste:

11.15.25. The primary effect will be positive with respect to the provision of renewable energy infrastructure on the site which will facilitate reduced reliance upon fossil fuels in accordance with national climate policy approaches supporting the same. There are no significant adverse effects predicted with respect to utilities and waste.

11.15.26. Telecommunications and aviation:

11.15.27. There is potential for disruption to services during the delivery of large turbine infrastructure to the site however this will be temporary and managed with service providers. In relation to the potential for disruption to services during operation, the

applicant has undertaken to liaise directly with nearby occupiers in relation to this. The EIAR states that remedial measures may be required in relation to television services. Reference is made to sections 5.10 and 7.15 of the 2006 wind energy development guidelines which refer to the installation of deflectors of repeaters to overcome such effects and use of planning conditions to minimise interference. The applicant has consulted with service providers as part of scoping for the EIAR and confirmed no impact upon their services, with the exception of RTE. A protocol has been prepared by RTE which the developer will sign prior to commencement of the development. This protocol sets out the developer's obligation to correct any potential deterioration in television and radio signal reception. This will ensure that there will be no negative impact on television and radio reception (section 13.8 EIAR). In reply to the appeal, the applicant has also confirmed that in relation to potential effect on wireless equipment, individual needs will be addressed as they arise, including the deployment of a qualified expert to address such issues. A condition is recommended to specifically address this and is included below.

11.15.28. Direct and Indirect Effects Conclusion

11.15.29. Having regard to the examination of environmental information in respect of material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities), in particular the EIAR provided by the applicant and submissions during the course of the appeal, it is considered that the main direct and indirect effects for this topic are as follows:

- With respect to land use, no significant negative residual effects arising, with benefits to agricultural practices as a result of the upgrading of access tracks throughout the site, resulting in slight, positive impact for agriculture. In relation to in-situ hardstands, foundations and substation following decommissioning, permanent, imperceptible and neutral residual effects due to the small extent of land affected.
- There will be permanent negative imperceptible residual impact on non-renewable resources such as aggregates and cement which are required during the construction phase. There will be long-term slight positive residual impact on non-renewable resources as a result of offsetting the use of fossil fuels in electricity generation over the lifetime of the proposed development

during operational phase. Permanent slight negative residual impact on the capacity of licenced waste facilities in the area as a result of waste disposal during construction, operation and decommissioning phases.

- No significant residual effects are expected with respect to telecommunications. With the implementation of mitigation, no residual effects are anticipated with respect to aviation.

11.15.30. Overall, I confirm with the conclusions of the EIAR that there are no significant negative residual impacts arising from the proposed development with respect to Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities).

11.16. **Material assets (traffic and transport)**

11.16.1. Chapter 11 of the EIAR addresses 'Traffic and Transportation'.

11.16.2. Issues Raised

11.16.3. Concern is raised in submissions about potential impact upon local roads during construction.

11.16.4. Context

11.16.5. Chapter 11 of the EIAR assesses the traffic impact of additional traffic movements that will be generated by the proposed development. It has been prepared in light with the guidance set out by TII using Autocad and Autotrack. The site is accessed from the local road Amharcóir Bóithre Poiblí (L6007). It is situated approx. 500m west of the L6008 local road, 1.5km north of the R585 and 7km west of Crookstown and the N22. These roads form the proposed route for turbine delivery to the site, illustrated in Figure 11.1 of the EIAR and summarised below.

11.16.6. The point of arrival for plant associated with the proposed wind farm is the port of Ringaskiddy in County Cork. The proposed haul route turns off the N22 at Castlemore, onto the R585 to the northeast of Crookstown. The route passes through the village of Crookstown and follows the R585 to the south west before turning right onto the L6008, then west on the L6007 from which the site is accessed.

11.16.7. The EIAR assessment sets out an assumption that smaller deliveries and general construction traffic will travel to the site via the same route as turbine deliveries.

However, it is stated that in practice it is likely that some deliveries will be made from suppliers closer to the site. This would result in reduced traffic impacts on the N22 and on R585.

11.16.8. The geometric assessment for the requirements of vehicles requiring access to the site is based upon the vehicle specification associated with the largest plant requirements, which for the proposal is the wind turbine blades, with a rotor blade of 58.5m with a total length of 63.2m and an inner radius of 25m.

11.16.9. Baseline

11.16.10. Traffic count surveys were undertaken to inform the findings of the EIAR and took place in October 2022. The traffic counts included a 24 hour classified automatic traffic count on the R585 to the east of Crookstown and a peak period (07:00 to 10:00 and 16:00 to 19:00) classified turning counts at the R585 / L6008 junction. A Covid-19 correction factor was then applied to account for impact on travel demand and traffic volumes when traffic counts were made in 2022. Traffic counts are shown in Table 11-2 of the EIAR, with traffic growth forecasts also accounted for and shown in Tables 11-3 to 11-5 of the EIAR.

11.16.11. Potential Effects in the Absence of Mitigation

Table 11.16.1: Summary of Potential Effects Traffic and Transport

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**
Do Nothing	If the proposed development did not proceed, there would be no additional traffic generated or accommodation works carried out on the local road network, and no direct or indirect effects on road and traffic.
Construction	Trip generation associated with the construction of the proposed development is outlined in Tables 11-7 to 11-12 of the EIAR. A total of 4,741 truck loads are anticipated in relation to site preparation, groundworks and the substation, and a total of 72 truck loads are anticipated with respect to wind turbine plant. It is estimated that 70 staff members will be employed during the 12-18 month site preparation and

	groundworks stage, reducing to 40 staff during the 6 month turbine construction stage. At worst case, this would generate a total of 70 two-way pcu (passenger car units) movements on the network. An additional 358 pcu's per day will be generated on the 6 weekdays that concrete foundations are proposed to be poured. An additional 163 pcu's per day for 227 weekdays associated with site preparation and groundworks. Equating to a temporary slight effect on the network. An additional 100 pcu's per day for 16 weekdays during turbine construction stage and the delivery of large equipment. Equating to moderate effect due to slow speeds, size and geometric requirements of vehicles associated with this stage of construction. Other deliveries at this stage is anticipated to create an additional 59 pcu's per day for 6 weekdays (approx. 2 days per week for 3 weeks) equating to temporary slight effect.
Operation	Traffic volumes during operation are expected to be minimal, with a maximum of 3 staff employed at any one time, equating to a worst case of 6 car movements. Equating to neutral and long term effect.
Decommissioning	Similar to effects during construction phase, but of less impact.
Cumulative	Developments considered with respect to cumulative impacts are set out in Table 11.26 of the EIAR. The majority of developments listed have either a low level of overlap with the proposed haul route or have low levels of associated traffic volumes, resulting in slight or imperceptible potential cumulative traffic effects. The EIAR identifies that the Barnadivane Turbine Delivery Route (TDR) (CCL PL Ref.14/6803) and the AGCR (CCL PL Ref.15/730) have the greatest potential for cumulative impact

	alongside the proposed development, due to use of the same sections of local highway network. Effect is anticipated to be slight to medium.

11.16.12. Mitigation

11.16.13. Mitigation measures are outlined in section 11.9.6 of the EIAR. The design is intended to reduce impacts in the following ways:

- Selection of the most appropriate delivery rout requiring minimal remedial work;
- Construction of temporary improvements;
- Use of on-site borrow pit to minimise deliveries to site;
- Use of the granted grid connection between the site and the existing Carrigariek Wind Site to alleviate requirement for construction works along the regional road – in the event that the proposed substation does not gain planning consent.

11.16.14. During construction stage mitigation includes the following:

- Measures to manage the delivery of abnormal loads, which are take place after peak evening traffic and carried out in consultation with the Local Authority and An Garda Síochána, under police escort.
- Appointment of Traffic Management Coordinator.
- Submissions of a programme of deliveries to the County Council in advance of all deliveries of turbine components to site and liaison with relevant local authorities and TII where required.
- Informing locals in the area of traffic related matters.
- Pre and post construction survey of roads, to ensure any remediation works are carried out to a satisfactory standard.
- Liaison with the County Council and An Garda Síochána during delivery phase of large turbine vehicles.
- Utilisation of temporary alterations to road network at critical junctions to minimise impact on existing environment during turbine component deliveries.

- Identification of delivery routs.
- Management plan to deliver large wind turbine components to include night option to minimise disruption.
- Travel plan for construction workers.
- Additional measures including wheel washing, sweeping / cleaning of roads, as set out in CEMP.
- Re-instatement works to road surfaces and boundaries.

11.16.15. No mitigation proposed during the operational stage.

11.16.16. Mitigation during decommissioning comprises a decommissioning plan, including material recycling / disposal and traffic management plan, to be agreed with the local authority and containing mitigation similar to that for construction phase.

11.16.17. Direct and Indirect Effects Assessment

11.16.18. The primary effects upon traffic and transport arising from the proposed development will occur during the construction phase, and to a lesser extent during the decommissioning phase. These effects include impacts associated with the use of HGVs and transportation of abnormally large loads related to component parts for the proposed turbines. Mitigation is outlined to manage and reduce impact associated with these traffic movements, which will be over a short-term, temporary period. These impacts are an inevitable consequence of the construction of wind energy development and with the application of mitigation measures impact will be within acceptable parameters and not significant. During operation, the proposed development will attract minimal vehicle movements.

11.16.19. Direct and Indirect Effects Conclusion

11.16.20. Having regard to the examination of environmental information in respect of material assets (traffic and transport), in particular the EIAR provided by the applicant and submissions during the course of the appeal, it is considered that the main direct and indirect effects for this topic are as follows:

- Following the application of mitigation measures during the construction phase, remedial impact will be slight, negative and temporary on existing road users, which will be minimised with the implementation of the traffic management plan.

During operation, as traffic impact will be imperceptible, there will be no residual impact. Impact during decommissioning will be minimised through preparation and implementation of a decommissioning plan, and impact will not be significant.

11.16.21. Overall, I concur with the conclusions reached in the EIAR with respect to impact upon traffic and transport.

11.17. Archaeology and cultural heritage

11.17.1. The EIAR describes Cultural Heritage in Chapter 12, presenting the results of an archaeological and cultural heritage impact assessment of the proposed development.

11.17.2. Issues Raised

11.17.3. Submissions have raised the importance of the site with respect to archaeological heritage and I address this below. I also note concern that some field boundaries may have been removed from the site and related consequence for surveys of the site with respect to archaeological investigation. I address land alteration as part of my planning assessment in section 9.8 above, in summary I am satisfied that submitted surveys are comprehensive and appropriately inform my assessment. More detail of survey data is set out below.

11.17.4. Context

11.17.5. The assessment presented in the EIAR of archaeology and cultural heritage is based upon both a desktop review of cultural heritage and archaeological data and field walking surveys of the proposed site. Field walking was undertaken in July 2014 and November 2022 by two qualified archaeologists. The visual impact of the proposed development on newly discovered monuments / sites of significance as well known archaeological and cultural heritage constraints is also assessed. Landscape and visual impact is addressed as a separate topic below.

11.17.6. The statutory context for the protection and safeguarding of cultural heritage resource is set out in section 12.2.1 of the EIAR.

11.17.7. Policies relating to archaeology in the Cork County Development Plan 2022 include HE 16-2: Protection of Archaeological Sites and Monuments, HE 16-3: Underwater

Archaeology, HE 16-4: Zones of Archaeological Potential in Historic Towns and Settlements, HE 16-5: Zones of Archaeological Potential, HE 16-6: Industrial and Post Medieval Archaeology, HE 16-8: Burial Places, HE 16-9: Archaeology and Infrastructure Schemes, HE 16-10: Management of Monuments within Development Sites, HE 16-11: Archaeological Landscapes, HE 16-12: Raising Archaeological Awareness and HE 16-13: Undiscovered Archaeological Sites.

11.17.8. Policies relating to built heritage under the Cork County Development Plan 2022 include policies HE 16-14 to HE 16-20. Policy HE 16-23: Cultural Heritage concerns the protection and promotion of cultural heritage in the County and HE 16-25: Gaeltacht Areas concerns the protection of the linguistic and cultural heritage of Gaeltacht areas of Cork.

11.17.9. Baseline

11.17.10. There are no National Monuments or those subject to a Preservation Order located within or immediately adjacent to the subject site boundary. There are two National Monuments ref.233 (SMR CO094-060001 Cahervagliar Ringfort) and 618 (SMR CO094-104002 Kinneigh Round Tower); and one monument subject to a Preservation Order ref.10/77 (SMR CO095-075 Ringfort – rath) situated within 10km of the nearest proposed turbine. These are described in Table 12-2 and Figure 12-2 of the EIAR.

11.17.11. Two hundred and ninety two (292) recorded monuments are located within 5km of the nearest proposed turbine described in Table 12-3 and Figure 12-5 of the EIAR. Over 58% of monuments are located in excess of 3km from the nearest proposed turbine, over 20% are located between 2 and 3km and over 17% are between 1 and 2km from the nearest proposed turbine. Over 3% (10 no.) monuments are located less than 1km from the nearest proposed turbine. The nearest monuments SMR ref.'s CO095-001---- and CO083-078---- ringforts are situated 225m and 251m from proposed turbines 6 and 2, respectively. The next nearest monument, Enclosure CO094-036---- , is situated circa 347m to the south-west of proposed turbine 6. The monuments are described in Table 12-3 and Figure 12-6 of the EIAR.

11.17.12. No new sites or monuments of archaeological significance were detected during field inspection of the site. A search of the database of excavations carried out did not reveal any excavations for the site and two carried out in surrounding townlands did not produce positive results. Consultation with the dataset of the National Museum of

Ireland found no find spots located within or adjacent to the site. There are no protected structures located within or adjacent to the subject site boundary or immediate vicinity of the proposed substation. The closest protected structures to the proposed substation is Elmglyn Country House c.3.5km to the north east and 5 structures listed in Table 12-4 of the EIAR that are within 5km of the nearest proposed turbine. No NIAH structures or historic gardens are located on or in the immediate vicinity of the site, with 14 located within 5km of the nearest proposed turbine and 1 situated c.3km to the north east of the proposed substation (Figure 12-7 to 8 EIAR).

11.17.13. Within the proposed wind farm site, historic use relates to farm settlements, with the only surviving remnants being the farmyard at Barnadivane townland to the east of proposed turbine 5. The majority of field boundaries are earth and stone walls 19th century in date, adding to the character of the area and representing local cultural heritage. A limekiln is indicated on historic OS map to the south west of proposed turbine 6, no trace was apparent in the site walkover survey. Laharan School is named on the 2nd edition OS map just inside the subject site boundary, the structure is derelict and not in use. A townland boundary comprising earth and stone boundaries will be traversed by the proposed internal access road extending past proposed turbine 3. No items of cultural heritage were noted in the footprint of the proposed substation site.

11.17.14. Potential Effects in the Absence of Mitigation

Table 11.17.1: Summary of Potential Effects Archaeology and Cultural Heritage

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**
Do Nothing	Impact on archaeology and cultural heritage assts would not apply and there would be no need for mitigation.
Construction	As there are no National Monuments, monuments subject to a Preservation Order, recorded monuments, or newly recorded archaeological sites or features, protected structures or NIAH, within or immediately proximate to the proposed infrastructure, no direct impact results to such features. The potential exists for sub-surface archaeological finds, features or deposits to exist within the proposed development

	site. Ground disturbance associated with the proposed development works has the potential to uncover such features and artefacts, during construction works such as topsoil removal, should they exist within the footprint of the proposed infrastructure. In the absence of mitigation, impact would be significant negative and permanent, if excavation by machinery permanently remove the sites. The proposed access track adjacent to proposed turbine 3 crosses a townland boundary, which in the absence of mitigation, equates to a direct impact resulting in significant negative effect.
Operation	Potential for indirect negative impact to the setting of archaeological or cultural heritage features. Viewshed analysis is described in the EIAR and finds that neither the proposed turbines or the proposed substation will be visible from National Monuments ref. 233 and 618. A change to the wider setting of monument 618 is acknowledged resulting in a not significant effect. The immediate setting of recorded monuments will not be impacted by the proposed development. A change to the wider setting of many of the recorded monuments within 5km of the nearest proposed turbine will result but is not significant. The proposed turbines 5-6 will be visible from nearest monuments CO095-001 and CO083-078 ringforts, with a slight impact. Given the distance between protected structures and the proposed development no visual effects to the immediate setting of any of the protected structures will result. A change to the wider setting of three of the protected structures is acknowledged (RPS ref.544, 547 and 552), however, as there is theoretical visibility of the proposed turbines from those locations with an imperceptible potential visual effect. Similarly, imperceptible visual effect is

	anticipated with respect to visibility of the proposed development from NIAH structures or historic gardens.
Decommissioning	Similar to construction phase but at a reduced level of impact.
Cumulative	Cumulative impacts are assessed in the EIAR with consideration of other permitted, existing and proposed wind farms, the permitted alternative grid connection and TDR works. While some increases to visual effects in the wider landscape may occur, no significant cumulative impacts have been identified.

11.17.15. Mitigation

11.17.16. During construction, proposed mitigation includes the following:

- Archaeological monitoring of any geotechnical / engineering trial pits or investigations and a report detailing the results of the same.
- Pre-construction archaeological testing of turbine bases and hardstands and proposed access tracks to be carried out prior to construction. A report setting out the results of the testing to be submitted to relevant authorities.
- Archaeological monitoring of ground works during construction. A report on the results of the monitoring to be complied and submitted to relevant authorities on completion of the project in accordance with appropriate guidelines.
- Archaeological monitoring of the removal of the townland boundary. A drawn and descriptive record of the portions of the boundary to be removed to be made and included in the monitoring report.

11.17.17. No mitigation is proposed in operational phase.

11.17.18. Direct and Indirect Effects Assessment

11.17.19. There are no archaeological or heritage features recorded as being located within the site that would be impacted by the proposed development. While there is potential for construction of the proposed development to disturb features that are not yet recorded, mitigation measures, primarily involving archaeological monitoring, can ensure that significant adverse effect would not occur in the event that such features

were discovered during works. During operation, no significant adverse impact upon heritage features will occur, principally due to the distance between the proposed development and surrounding features, alongside associated visual effects.

11.17.20. Direct and Indirect Effects Conclusion

11.17.21. Having regard to the examination of environmental information in respect of archaeology and cultural heritage, in particular the EIAR provided by the applicant and submissions during the course of the appeal, it is considered that the main direct and indirect effects for this topic are, and will be mitigated as follows:

- If sites are detected during pre-construction testing or monitoring, they will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of the same, with a resulting residual impact of slight significance. With the application of mitigation, no significant residual impact is anticipated upon archaeology or cultural heritage features.

11.17.22. Overall, I concur with the conclusions reached in the EIAR with respect to impact upon archaeology and cultural heritage.

11.18. Landscape and visual

11.18.1. A landscape and visual impact assessment is described in Chapter 8 of the EIAR.

11.18.2. Issues Raised

11.18.3. Submissions raise significant concern with respect to the visual impact of the proposed turbines in the context of the site, being currently characterised as undeveloped agricultural fields. My assessment of potential impact of amenity at section 9.4 of this report also considers visual impact, and should be read in conjunction with this part of my report.

11.18.4. Context

11.18.5. Chapter 8 of the EIAR refers to the Wind Energy Development Guidelines 2006 which specify the different radii for examining the zone of theoretical visibility (ZTV) of the proposed wind farm, which is influenced by turbine height. For the proposed development, the proposed blade tips are 131m high and therefore a minimum ZTV radius of 20km is recommended from the outermost turbines of the scheme. A

particular focus is also given to receptors within the central area of the proposed development (5km) where there is a higher potential for significant impact to occur. The classification for the determination of the significance of impacts upon landscape and visual impact is set out in the EIAR based upon the IEMA Guidelines for Landscape and Visual Impact Assessment 2013.

11.18.6. The assessment set out in the EIAR has been informed by desktop studies and fieldwork undertaken by qualified and experienced Landscape Architects. The EIAR includes a comprehensive description of the methodology that has informed the findings of the assessment.

11.18.7. Section 8.3.2 of the EIAR sets out the landscape policy context and designations for the site. The 2006 Wind Energy Development Guidelines provide guidance on wind farm siting and design criteria for a number of different landscapes types. The Central Study Area is considered to be located within a landscape that is consistent with the 'Hilly and Flat Farmland' landscape type. A Landscape Character Assessment is incorporated into the Cork County Development Plan 2022-2028, with the subject site situated within the Landscape Character Type '10a – Fissured Fertile Middleground' which is classed as having 'local importance', 'low value' and 'low sensitivity'. Landscape character areas with a 'high' value and sensitivity occur in the wider area. Figure 13.2 of the Cork County Development Plan 2022-2028 identifies areas likely to be most suitable for wind energy developments with the site situated in an area identified as an 'Area Likely to be Most Suitable'. In addition, figure 13.3 of the County Development Plan identifies the subject site as being in an area designated as 'Acceptable in Principle' for wind energy development. Objective ET 13-6: Acceptable in Principle in the Development Plan states that wind energy development is normally encouraged in these areas subject to protection of residential amenity particularly in respect of noise, shadow flicker, visual impact and the requirements of the Habitats, Birds, Water Framework, Floods and EIA Directives and taking account of protected species of conservation concern. Table 8-5 of the EIAR identifies relevant scenic designations under the Cork County Development Plan from which the proposed development may be visible from.

11.18.8. <u>Baseline</u>

11.18.9. The existing landscape environment is described from section 8.3 of the EIAR and summarised here. The proposed development is located along a broad plateau of hills and ridges, with the site itself on a crest of hills that peak around c.230m AOD located to the north of the River Bride and south of the Cummer River. The River Lee valley is just over c.5km north of the site and comprises highly distinctive waterbodies. The principal land use for the area is agricultural farmland bound by a network of mixed hedgerow vegetation. Small blocks of conifer forest are located immediately west and north of the site, with more extensive areas of commercial forestry in the wider area. The wider area to the west and north encompass areas of mountain moorland, and there is riparian vegetation along river valleys throughout the wider area. To the north and south there are settlements at Macroom, Bandon and Dunmanway, with other human made landscape features including the N22 and N71 transport corridors. There are also several active quarries in the wider area. Existing wind farm developments are notable land uses proximate to the site and in the wider area, the closest being immediately east of the site.

11.18.10. The visual baseline for the site is set out from section 8.4 of the EIAR and summarised here. A computer generated Zone of Theoretical Visibility (ZTV) map was prepared for the EIAR and illustrates where the proposed development would be visible from as illustrated in figure 8-10 of the EIAR. The proposed development will be visible in the immediate surrounds of the site, up to c.1-2km in all directions. Beyond this distance, the proposed development will be intermittently visible along the most elevated parts of the wider area. Visual receptors for the proposed development include the nearest centres of population at Coppeen and Teerelton, as well as Castletowkenneigh, Kilmurry and Cookstown. Larger settlements of Macroom, Dunmanway, Bandon also occur in the wider area, with other small settlements in the wider area also identified in the EIAR. Transport routes are identified as relevant visibility receptors, the most notable being the N22 c.5.4km at its nearest point to the northeast to the site. The N71 is c.13km southeast of the site. Regional and local roads also traverse the area. Tourism, recreational and heritage features are also identified with references to visual receptors with notable aspects and features described in section 8.4.2.3 of the EIAR. The basis for the selected Viewshed Reference Points is set out from section 8.4.4 of the EIAR and has been informed by

key views, designated scenic routes, local community views, centres of population, major routes and amenity / heritage features.

11.18.11. The central study area is defined in the EIAR as <c.5km from the nearest proposed turbine. In this area, the landscape context is not highly sensitive to development, reinforced by the existing wind farm located immediately to the east of the site. The landscape within this area is principally related to rural productivity and subsistence for the local population, as opposed to highly susceptible recreational amenity, naturalistic or scenic values. The central study area is considered in the EIAR to have a Medium-low landscape sensitivity.

11.18.12. The wider study area is defined in the EIAR as c.5-20km from the nearest proposed turbine. The River Lee valley is one of the most sensitive aspects of the wider study area and encompasses various landscape values, which relate to the naturalistic, recreational amenity and scenic amenity. There are also a number of walking trails, cycling routes and sensitive landscape areas including the Gearagh Nature Reserve. There are numerous designated scenic routes along the corridor of the River lee or in its near surrounds. The broad part of the River Lee and the Gearagh Nature Reserve are situated in the 'LCT7 - Hilly River and Reservoir Valleys' landscape character area, designated a 'High Value Landscape' in the current Cork County Development Plan. The Wider Study Area is considered in the EIAR to be of a Medium-low landscape sensitivity, but with occasional landscape features and areas of higher sensitivity such as the Gearagh Nature Reserve and the River Lee corridor.

11.18.13. Landscape and Visual Effects

Table 11.18.1: Summary of Effects Landscape and Visual

Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do Nothing	Existing areas of pastoral farmland that cloak the site and its surrounding landscape would continue to be managed through typical agricultural practices.
Construction	Landscape Impacts: Due to the relatively small footprint of the proposed wind farm features and limited disturbance / vegetation clearance, landscape impacts are anticipated to be minor. Topography and land cover of the site will be largely

	unaltered with construction limited to tracks, areas of hard standing for turbines, temporary site construction compound, proposed met masts and borrow pits. The road layout has been designed to follow natural contours to avoid 'cut and fill' where possible. There will be an intensity of construction stage activity associated with the access tracks and turbine hardstands consisting of the movement of heavy machinery and materials, but this will be temporary/short term in duration and transient in location. The most notable construction stage landscape impacts resulting from the Proposed Substation relate to the construction of concrete foundations to facilitate that substation building. These construction stage effects are relatively minor and compare to the construction of an industrial farm shed. Impact from land disturbance and vegetation loss associated with internal site cabling will be modest in the context. Site activity will be at its greatest during the construction phase due to the operation of machinery on site and movement of heavy vehicles to and from site. This phase will have a more significant impact on the character of the site than the operational phase, but it is a 'short-term' impact that will cease as soon as the proposed development is constructed and becomes operational. Effect generated by intensity of construction activities from workers and heavy machinery, as well as areas of bare-ground and stockpiling of materials, will be temporary/short term in duration and not significant. Visual Impacts: Viewpoints for the EIAR do not consider construction stage visual effects (refer to Appendix 8 of the EIAR). This is considered further below as part of the assessment of impacts.
Operation	Landscape Impacts: Irreversible physical effects on sensitive landscape features. Disruption of existing land use patterns.

	Incongruous change to areas of sensitive landscape character. Change in the character of the immediate area due to the introduction of tall structures with moving components, however the site context already has wind turbines as a characteristic feature of the immediate and wider area, most notably to the east of the site with the Garranereagh Wind Farm. Due to the relatively broad scale of the existing landform surrounding the site, landscape elements and land use patterns, the proposed development is well assimilated within the context. Although the Proposed Development represents a stronger human presence and level of built development than currently exists on the Proposed Development site, it will not detract significantly from its productive rural character, which wind turbines are already a feature of. The magnitude of the landscape impact is deemed to be Medium within the Central Study Area. Beyond 5km from the site, the magnitude of landscape impact is deemed to reduce to Low and Negligible at increasing distances as the proposed development becomes a proportionately smaller component of the overall landscape fabric. The significance of landscape impact is considered to be Moderate throughout the Central Study Area. For the wider study area (beyond 5km from the site), landscape impact significance is not considered to exceed Slight and will reduce to Slight and Imperceptible at increasing distances as the project becomes a progressively smaller component of the wider landscape fabric even in the context of higher sensitivity landscape units / features. Visual Impacts: the closest scenic route to the site is Scenic Route S36 and VP8 is the representative viewpoint for this in the EIAR (Appendix 8 of the EIAR refers). The proposed wind farm will be visible from the southern section of this scenic

	route with a Moderate significance of impact. The proposed development will not be visible along the entire section of this scenic route designation. The Development Plan categorises the landscape value surrounding this scenic route as low. All other viewpoints representing scenic routes in the study area were deemed to have a visual impact of Slight-imperceptible or Imperceptible due to the distance and/or limited visibility of proposed turbines. In many of these views existing turbines are commonplace. Local community views are those experienced by people who live, work and move around the area within approximately 5km of the site. 12 viewpoints are representative of these views in the EIAR. The highest significance of visual impact is Substantial-moderate at viewpoints VP11 and VP15 where the proposed wind farm is nearest. Two turbines present in these views with a dominant visual presence and will be prominent built features in the local landscape context. VP11 affords a broad view of the uplands, however the EIAR concludes that the proposed development will not block or notably obstruct this view due to the generous spacing characteristics of the proposed wind farm features and the downhill location of the proposed substation. At VP15 the proposed turbines present at considerable scale and will result in notable negative aesthetic effects which relate to a minor degree of visual dwarfing and some clear instances of turbine overlap. In all instances, the EIAR concludes that the proposed turbines will not appear out of place in terms of their scale or function as they are viewed in the context of broad-scale landforms and broad underlying land use patterns. Local landscape context comprises an existing similar-sized wind farm, and the effect, therefore, the proposal is an

	intensification of an existing land use as opposed to the introduction of a new and unfamiliar one. For other local community receptors, the EIAR identifies five that will experience a visual impact significance of Moderate, including VP8, VP9, VP10, VP14 and VP16. Whilst the turbines will be a prominent feature from these views, they are offset from the most sensitive aspect of this view, to the south and towards distant rolling hills and ridges in the southern half of the area. The proposed turbines present at a large scale due to their close proximity to some of these local community receptors, but they will not appear incongruous in the context which is already characterised by existing wind farm development. In terms of surrounding centres of population, visual impact even from the nearest areas to the proposed turbines is predicted to have no greater than a Slight / Slight-imperceptible effect. This is due to limited visibility. Related viewpoints referred to in the EIAR are VP6, VP7, VP19 and VP22. Visibility from major routes, including the N22 and N71, will be limited due to their contained nature and distance to the proposed development as well as high levels of roadside screening. A Moderate-slight visual impact will occur from the R585 regional road close to the site represented by viewpoint VP18 (other views from this road are represented by VP12, VP17 and VP19). In terms of visibility from heritage and amenity features, the proposed development will marginally increase the intensity of built development in the local surrounds of the Gearagh Nature Reserve, however the EIAR concludes that there will be no notable detraction in the scenic amenity afforded, which is currently influenced by a range of other anthropogenic land

	uses such as major route corridors, a large industrial manufacturing facility and the existing Garranereagh turbines, with a resulting visual impact of Slight. Representative viewpoints for other local heritage features are similarly classified as having a significance no greater than Slight. In conclusion, while the proposed development will result in negative effects close to significant in localised areas in the immediate proximity of the site, overall, the proposed development will not result in significant visual impacts. This conclusion is influenced by the existing context of the landscape, reinforced by the 'low' sensitivity classification in the County Development Plan.
Decommissioning	Landscape Impacts: The lifespan of the project is 25 years, after which time it will be dismantled and the landscape reinstated to prevailing conditions. Within 2-3 years of decommissioning there will be little evidence that a wind farm ever existed on the site, albeit the Proposed Substation will remain in perpetuity as part of the national grid infrastructure, in addition to residually useful access tracks. The decommissioning phase will have similar temporary impacts as the construction phase with the movement of large turbine components away from the site.
Cumulative	Table 8-9 of the EIAR identifies 11 operational and 2 consented wind farms in the study area for the proposed development. Table 8-10 of the EIAR describes the nature of cumulative visibility within the wider study area. In almost all cases where the proposed project will be clearly visible, it will also be theoretically visible in combination with at least one other existing development, and this principally relates to visibility of the proposed wind farm in combination with the existing Garranereagh Wind Farm. Whilst the proposed development will notably increase the intensity of wind farm

	development, it is of a similar scale and are located in an almost identical landscape context as the existing Garranereagh turbines. The proposed turbines will typically be viewed as an extension to the existing Garranereagh development in the local and wider surrounds of the study area. In relation to existing and permitted wind farm developments surrounding the study area, views from the most elevated locations afford the most notable potential for combined views of turbines. However, due to the separation distances between permitted developments and the proposed development, there is limited potential for any notable cumulative impacts to occur. Over the proposed development is concluded in the EIAR to contribute an additional cumulative effect in the order of Medium-low significance within the study area, reducing to Low in the wider surrounds of the study area where the proposed turbines appear as an extension of the Garranereagh turbines. No significant impacts are identified with respect to other forms of development, with brief, minor and localised cumulative landscape and visual effects likely to occur during the construction phase alongside the permitted AGCR and TDR.

11.18.14. Mitigation

11.18.15. Section 8.6 of the EIAR describes proposed mitigation measures. As the proposed wind farm is highly visible, it is not feasible to screen them. The main mitigation is therefore avoidance by design, with the siting of the proposed development in a part of Cork that is not heavily influenced by susceptible landscape receptors. The proposed development is also sited adjacent to an existing wind farm development and the EIAR states that this represents an intensification of existing land use and not the introduction of a new and unfamiliar one.

11.18.16. Direct and Indirect Effects Assessment

11.18.17. Landscape:

11.18.18. Physical impact on the land cover of the site, which will be relatively minor in the context of the overall productivity of the rural landscape, with existing wind energy development, commercial conifer forest plantations and agricultural farmland. The proposed development will be in keeping with this established landscape context.

11.18.19. Visual:

11.18.20. During construction, visual impact has not been specifically addressed in the EIAR, however this impact will be localised and temporary. Such impact is an inevitable consequence of the construction of such projects, with alterations to the visual appearance of the site as works progress. This impact will not generate long-term significant negative effects.

11.18.21. The majority of viewpoints assessed with respect to visual impact will experience impacts in the range of low to medium. A notable exception to this is the viewpoint at VP11 where the proposed wind farm is at its nearest. Similarly, viewpoints VP9, VP10, VP14 and VP14 experience high-medium impact, largely due to their close proximity to the site and the sensitivity of visual receptors. The highest significance of visual impact is substantial-moderate at viewpoints VP11 and VP15. Two turbines in these views will have a dominant visual presence, appearing as prominent built features in the local landscape context, with some overlapping of turbines in the view. However, due to the spacing between turbines, views will not be obstructed or blocked and the proposed turbines will not appear out of place as they are viewed in the context of existing electrical infrastructure in the area.

11.18.22. <u>Direct and Indirect Effects Conclusion</u>

11.18.23. Having regard to the examination of environmental information in respect of landscape and visual, in particular the EIAR provided by the applicant and submissions during the course of the appeal, it is considered that the main direct and indirect effects for this topic are as follows:

- In relation to the central study area, residual impact of moderate significance with respect to landscape impact. In relation to the wider study area, the significance of this impact is slight, reducing to imperceptible at increasing distances from the subject site.

- In terms of visual effect, the significance of visual impacts for all receptors (including from Scenic Routes), is generally in the mid to low range, with the exception of a small number of local community views. The highest impacts are predicted to arise from local receptors in the immediate vicinity of the site (i.e. less than 1km from the turbines). However, the proposed turbines will not appear overscaled or particularly overbearing in relation to the existing local landscape context, which includes existing wind energy development of a similar scale. The proposed development will not result in significant visual impacts, although some localised areas will experience impacts close to significant. Overall, the existing landscape is not highly susceptible to development (evidenced by the 'Low' sensitivity classification in the Cork County Development Plan) and the development will be assimilated without significant residual negative visual effect.

11.18.24. Overall, I concur with the conclusions reached in the EIAR with respect to impact upon landscape and visual.

11.19. The interaction between the above factors

11.19.1. Chapter 15 of the submitted EIAR is entitled 'Interactions of the foregoing'. Table 17.2 of the EIAR highlights the potential for interactions between topic areas. I have considered the interrelationships between factors and whether these might as a whole affect the environment, even though the effects may be acceptable on an individual basis. Having considered the mitigation measures contained in the EIAR, I am satisfied that residual impact resulting from interaction between all factors is minimised.

11.20. Cumulative impacts

11.20.1. I note submissions / appeal grounds with respect to cumulative impacts arising from the proposed development in combination with other development in the area. Appendix 1.2 of the EIAR sets out the projects considered with respect to potential for cumulative impacts and includes projects identified in submissions at Carrigareik and Shehy More. I note a submission referencing 308173, which relates to a pre-application request to the Board, a SID application to the Board on the same site was

approved in February 2025. This site is located over 17km away from the subject site (as the crow flies) in Co. Kerry and sufficiently distant to rule out potential for cumulative effects.

11.20.2. The proposed development would occur in tandem with the development of other sites that are in the area. Such development would reflect land uses envisaged under the development plan which has been subject to Strategic Environment Assessment. A number of developments in the surrounding area have been specifically identified as being considered in Appendix 1.2 of the submitted EIAR.

11.20.3. Each topic chapter in the submitted EIAR has considered cumulative impacts, and I have highlighted these where most relevant to my assessment. The potential cumulative impacts primarily relate to nuisances (such as emissions, traffic etc) arising from the construction of the development, with other planned or existing projects, and each of the EIAR chapters has regard to these in the assessment and mitigation measures proposed. It is concluded that the culmination of effects from the existing, planned and permitted development and that currently proposed would not be likely to give rise to significant effects on the environment, other than those that have been described in the EIAR and considered in this EIA.

11.21. Reasoned Conclusion on the Significant Effects

11.21.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant, and the submissions from the planning authority, prescribed bodies and observers in the course of the application and appeal, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

11.21.2. **Population and human health** –Implementation of a CEMP during construction and decommissioning phases to mitigate direct negative effects. Designed in mitigation include screen planting and measures to mitigate impact from shadow flicker. Application of best practice and safety measures during operation of the project. No significant negative effects. Direct, significant and long-term positive impact arising from the Community Benefit Fund for the project.

11.21.3. **Biodiversity** – The proposed development will result in the loss of habitat on the site and generates potential for risk of collision / injury to bats and birds. With the implementation of mitigation, including hedgerow re-instatement, protection of watercourses, pre-clearance and pre-construction surveys, measures to reduce collision risk (including curtailment), and monitoring, there will be no significant negative residual effects upon biodiversity.

11.21.4. **Land, soils, geology, water, air quality or climate** - Mitigation is formed of measures to reduce and manage impact upon land, soils, geology, water, air quality and climate, including implementation of a Construction Environmental Management Plan, as well as surface water management and water quality monitoring. With the implantation of mitigation, no significant residual negative impacts. During operation, residual impact will be positive upon air quality and climate due to the avoidance of emissions from fossil fuel generators.

11.21.5. **Noise and vibration** – No significant residual effects are predicted with respect to noise and vibration. Mitigation includes adherence to regulations for the control and abatement of noise during construction and the implementation of a Construction Environmental Management Plan, as well as a condition to limit noise during operation.

11.21.6. **Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities)** – Mitigation has been designed-in to minimise potential effects, with additional mitigation including implementation of a construction and waste management plan as part of the CEMP for the project. Tailored mitigation for telecommunications including a protocol to be signed between 2RN and the developer setting out the developer's obligation to correct any deterioration in television and radio signal reception. Mitigation related to aviation includes aeronautical obstacle lighting. With the implementation of mitigation, no significant residual negative impacts.

11.21.7. **Material assets – traffic and transportation** – Mitigation will reduce impact upon traffic movements arising during the construction and decommissioning phase from HGV movements and transportation of abnormally large loads. Impact will be over a short-term, temporary period and will not be significant. During operation impact will be imperceptible.

11.21.8. **Archaeology and cultural heritage** – Mitigation primarily involves archaeological monitoring to avoid impact upon currently unknown features. Additional mitigation ensures preservation (by record or in-situ) in the event of discovery of unknown / unexpected features during construction. With the application of mitigation, no significant residual impact.

11.21.9. **Landscape and visual impacts** – In relation to the central study area, residual impact of moderate significance with respect to landscape impact. In relation to the wider study area, the significance of this landscape impact is slight, reducing to imperceptible at increasing distances from the subject site. In terms of visual effect, the significance of visual impacts for all receptors (including from Scenic Routes), is generally in the mid to low range, with the exception of a small number of local community views. The existing landscape is not highly susceptible to development (evidenced by the 'Low' sensitivity classification in the Cork County Development Plan) and the development will be assimilated without significant residual negative visual effect.

11.21.10. Having regard to the above, the likely significant environmental effects arising as a consequence of the proposed development have been satisfactorily identified, described and assessed in this EIA. I also consider that the EIAR is compliant with Article 94 of the Planning and Development Regulations, 2001, as amended.

12.0 Conclusion

12.1. National, regional and local planning policy all support the provision of renewable energy development and facilitating grid connections. Objectives under the Cork County Development Plan support the provision of renewable energy, including onshore wind to assist in meeting renewable energy targets, namely objectives ET 13-1 Energy, ET 13-2 Renewable Energy and ET 13-4 Wind Energy, as well as Objective ET 13-21: Electricity Network with respect to facilitating infrastructure connections. Objective ET 13-5: Wind Energy Projects, supports a plan led approach to wind energy development with the aim of identifying areas for wind energy development to ensure minimal environmental constraints, including areas 'Acceptable in Principle'.

12.2. The site is located in an area ‘Acceptable in Principle’ under the wind strategy in Cork County Development Plan 2022-2028 where wind energy development is encouraged subject to the protection of residential amenity and the requirements of Directives (Objective ET 13-6: Acceptable in Principle). This report sets out an assessment of potential impacts upon amenity and the environment, with particular reference to matters raised in the appeals and submissions. The proposed development (comprising the project under the two planning application / appeal reference numbers and being a substation and wind farm), has been found to be in conformity with all relevant provisions of national, regional and local planning policy. An Appropriate Assessment and Environmental Impact Assessment has also been carried out with regard to obligations under Habitats, Birds, Water, Flood and EIA Directives. The proposed development will not adversely affect the integrity of designated sites or result in significant negative impact upon the environment. In addition, and with reference to obligations under the Climate Act 2015 (as amended), the proposal will facilitate reduced reliance upon fossil fuels and contribute towards national goals with respect to climate action and is therefore consistent with the climate action plan and furtherance of the national climate objective.

13.0 Recommendation

13.1. I recommend that planning permission should be GRANTED for appeal reference ABP-308210-20 for the proposed wind farm, for the reasons and considerations set down below, and subject to the attached conditions.

13.2. I recommend that planning permission should be GRANTED for appeal reference ABP-308208-20 for the proposed substation, for the reasons and considerations set down below, and subject to the attached conditions.

14.0 Reasons and Considerations ABP-308210-20

14.1. The Board reached its decision in accordance with its duties under Section 15(1) of the Climate Action and Low Carbon Development Act 2015, as amended, and the requirement to, in so far as practicable, perform its functions in a manner consistent with inter alia the Climate Action Plan 2025 and the furtherance of the national climate objective.

And 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 Directive) 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 and amending Directive EU/2023/2413 which aims to speed up the EU's clean energy transition.
    - Directive 2011/92/EU (The EIA Directive) as amended by Directive 2014/52/EU.
- National and regional planning and related policy, including:
    - National policy with regard to the development of alternative and indigenous energy sources and minimisation of emissions from greenhouse gases. Particularly the NPF First Revision 2025 and National Policy Objective 70.
    - Wind energy Guidelines: Guidelines for Planning Authorities 2006 and the draft guidelines published in 2019.
    - The objectives and targets of the National Biodiversity Action Plan 2023-2030.
- Regional and local planning policy, including:
    - Regional Spatial Economic Strategy for the Southern Region;
    - Cork County Development Plan 2022-2028.
- Other relevant national policy and 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 reports of the Local Planning Authority and the further information provided by the applicant to the Local Planning Authority received in 2014.
- The further information provided by the applicant to the Board received on 10th March 2023.
- The submissions made on the planning application to the Local Authority and to An Bord Pleanála in connection with the appeals.
- The report and the recommendation of the Inspector, including the examination, analysis and evaluation undertaken in relation to appropriate assessment and environmental impact assessment, as well as the specialist ecologist report for the Board relating to the same.

14.2. **Appropriate Assessment: Stage 1:**

14.3. The Board noted that the proposed wind farm development is not directly connected with or necessary for the management of a European Site. The Board completed an appropriate assessment screening exercise in relation to the potential effects of the proposed development on designated European Sites, taking into account the Screening Report for Appropriate Assessment submitted with further information and the report and screening assessment completed by the Inspector. The Board agreed with the inspector's assessment and conclusion that the European Site for which there is potential for significant effects is The Gearagh SPA. The Board concluded, in agreement with the inspector, that Appropriate Assessment is required for that European Site.

14.4. **Appropriate Assessment Stage 2:**

14.5. The Board considered the Natura Impact Statement and associated documentation submitted with the application and appeal, the mitigation measures contained therein, the submissions and observations on file, and carried out an Appropriate Assessment of the implications of the proposed wind farm development for European Sites in view of the conservation objectives for the Gearagh SPA. The Board considered that the information before it was adequate to allow the carrying

out of an Appropriate Assessment and to allow it to reach complete, precise and definitive conclusions for Appropriate Assessment.

14.6. In completing the assessment, the Board considered, in particular, the likely direct and indirect impacts arising from the proposed development, both individually and in combination with the other plans and projects (including all aspects of the entire windfarm project, including the substation, as addressed in the Inspector's assessment) and taking into account any mitigation measures which are included as part of the current proposal, in view of the conservation objectives for the European Site.

14.7. The Board accepted and adopted the Appropriate Assessment carried out in the inspector's report with respect to the potential effects of the proposed development on the integrity of the aforementioned European Site, having regard to the Site's conservation objectives.

14.8. In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, (including all aspects of the entire windfarm project as addressed in the inspector's assessment) would not adversely affect the integrity of any European Site, in view of the Sites' conservation objectives and there is no reasonable scientific doubt as to the absence of such effects.

14.9. This conclusion is based on a complete assessment of all aspects of the proposed project, both alone and in combination with other plans and projects of relevance, (including all aspects of the entire windfarm project as addressed in the inspector's assessment) and took into account all submissions received during the course of the application and appeal.

14.10. **Environmental Impact Assessment**

14.11. The Board completed an Environmental Impact Assessment of the proposed development together with the substation, taking into account:

(a) The nature, scale, location and extent of the proposed development;

(b) The Environmental Impact Assessment Report and associated documentation submitted;

(c) The submissions received during the course of the appeals; and

(d) The Inspector's report.

14.12. The Board considered that the Environmental Impact Assessment Report supported by the documentation submitted by the applicant during the course of the appeal, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. 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 appeal.

14.13. Reasoned Conclusion of the Significant Effects:

14.14. The Board considered that the Environmental Impact Assessment Report and supporting documentation submitted by the applicant during the course of the appeal, 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 Directive 2011/92/EU as amended by EU Directive 2014/52/EU amending. The Board considered that the main significant direct and indirect effects of the proposed development (including the windfarm and substation) on the environment are those arising from the impacts listed below.

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

14.15.1. **Population and human health** –Implementation of a CEMP during construction and decommissioning phases to mitigate direct negative effects. Designed in mitigation include screen planting and measures to mitigate impact from shadow flicker. Application of best practice and safety measures during operation of the project. No significant negative effects. Direct, significant and long-term positive impact arising from the Community Benefit Fund for the project.

14.15.2. **Biodiversity** – The proposed development will result in the loss of habitat on the site and generates potential for risk of collision / injury to bats and birds. With the implementation of mitigation, including hedgerow re-instatement, protection of watercourses, pre-clearance and pre-construction surveys, measures to reduce

collision risk (including curtailment), and monitoring, there will be no significant negative residual effects upon biodiversity.

14.15.3. **Land, soils, geology, water, air quality or climate** - Mitigation is formed of measures to reduce and manage impact upon land, soils, geology, water, air quality and climate, including implementation of a Construction Environmental Management Plan, as well as surface water management and water quality monitoring. With the implantation of mitigation, no significant residual negative impacts. During operation, residual impact will be positive upon air quality and climate due to the avoidance of emissions from fossil fuel generators.

14.15.4. **Noise and vibration** – No significant residual effects are predicted with respect to noise and vibration. Mitigation includes adherence to regulations for the control and abatement of noise during construction and the implementation of a Construction Environmental Management Plan, as well as a condition to limit noise during operation.

14.15.5. **Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities)** – Mitigation has been designed-in to minimise potential effects, with additional mitigation including implementation of a construction and waste management plan as part of the CEMP for the project. Tailored mitigation for telecommunications including a protocol to be signed between 2RN and the developer setting out the developer's obligation to correct any deterioration in television and radio signal reception. Mitigation related to aviation includes aeronautical obstacle lighting. With the implementation of mitigation, no significant residual negative impacts.

14.15.6. **Material assets – traffic and transportation** – Mitigation will reduce impact upon traffic movements arising during the construction and decommissioning phase from HGV movements and transportation of abnormally large loads. Impact will be over a short-term, temporary period and will not be significant. During operation impact will be imperceptible.

14.15.7. **Archaeology and cultural heritage** – Mitigation primarily involves archaeological monitoring to avoid impact upon currently unknown features. Additional mitigation ensures preservation (by record or in-situ) in the event of discovery of unknown /

unexpected features during construction. With the application of mitigation, no significant residual impact.

14.15.8. **Landscape and visual impacts** – In relation to the central study area, residual impact of moderate significance with respect to landscape impact. In relation to the wider study area, the significance of this landscape impact is slight, reducing to imperceptible at increasing distances from the subject site. In terms of visual effect, the significance of visual impacts for all receptors (including from Scenic Routes), is generally in the mid to low range, with the exception of a small number of local community views. The existing landscape is not highly susceptible to development (evidenced by the 'Low' sensitivity classification in the Cork County Development Plan) and the development will be assimilated without significant residual negative visual effect.

14.16. Having regard to the above, the Board is satisfied that the proposed development would not have any unacceptable direct or indirect effects on the environment. The Board is satisfied that the reasoned conclusion is up to date at the time of making the decision. 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 and subject to compliance with the conditions set out herein, the effects on the environment of the proposed development by itself, and, cumulatively with other development in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the reporting Inspector.

14.17. **Proper Planning and Sustainable Development**

It is considered that the proposed development would accord with European, national, regional and local planning policy provision. The Board was satisfied that an approval for the proposed development would be consistent with the national climate ambitions and with the relevant provisions of the Climate Action Plan 2025. Furthermore, the Board has performed its functions in relation to the making of its decision, in a manner consistent with Section 15(1) of the Climate Action and Low Carbon Act 2015. The Board considered that by reason of scale, form and extent, that, subject to compliance with the following conditions, the proposed development would be in accordance with the relevant provisions of the Cork County

Development Plan 2022-2028, would not seriously injure the visual amenities of the area, or of property in the area, and would constitute an appropriate form of development at this location. The proposed development, would therefore, be in accordance with the proper planning and sustainable development of the area.

15.0 **Conditions ABP-308210-20**

1.	The proposed development shall be carried out and completed in accordance with the plans and particulars of the application to the planning authority on 26/09/2014 as amended by the submissions received by the planning authority on 9/12/2014 and the further details received by An Bord Pleanála, including further information received on 10th March 2023 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 interests of clarity and of proper planning and sustainable development of the area.
2.	The period during which the development hereby permitted may be carried out shall be 10 years from the date of this Order. **Reason**: Having regard to the nature of the development, the Board considers it appropriate to specify a period of validity of this permission in excess of five years.
3.	The mitigation measures contained in the submitted Environmental Impact Assessment Report (EIAR), shall be implemented. **Reason**: To protect the environment.

4.	The mitigation measures contained in the submitted Natura Impact Statement (NIS), shall be implemented. **Reason**: To protect the integrity of European Sites.
5.	Prior to the commencement of any works associated with the development hereby permitted, the developer shall submit a detailed final Construction Environmental Management Plan (CEMP) for the written agreement of the planning authority. The final CEMP shall reflect measures included in the EIAR submitted with further information. A record of daily checks that the construction works are being undertaken in accordance with the CEMP shall be kept at the construction site office for inspection by the planning authority. The agreed CEMP shall be implemented in full in the carrying out of the development. **Reason**: In the interest of environmental protection, residential amenities, public health and safety and environmental protection.
6.	The measures outlined in the EIAR submitted with the further information, shall be carried out by the wind energy developer or operator to eliminate shadow flicker. **Reason**: In the interest of residential amenity.
7.	Noise levels generated by the windfarm following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at noise sensitive locations, shall not exceed: • For the daytime period 7am to 11pm, in quiet environments, where background noise is less than 30dB(A)L90 T10, a maximum noise level of 40dB(A)L90 T10, • For daytime periods, 7am to 11pm, where the background noise level exceeds 30dB(A)L90 T10, the greater of 45dB(A)L90 T10, or 5dB(A) above background levels,

	• For the nighttime period 11pm to 7am, for all noise environments, 43dB(A)L90 T10. Prior to the commissioning of the windfarm, the developer shall submit and agree in writing with the planning authority a Noise Compliance Monitoring Programme (NCMP) for the operational windfarm. The NCMP shall include a detailed methodology for all sound measurements including Amplitude Modulation (AM) and tonal noises, including frequency of monitoring and recording of results, which shall be made publicly available. The results of the initial noise compliance monitoring to be submitted to and agreed in writing with the planning authority within 12 months of commissioning of the wind farm. The NCMP shall be fully implemented during the operation of the windfarm. **Reason**: In order to protect the amenities of noise sensitive properties in the vicinity of the development.
8.	Drainage arrangements including the attenuation and disposal of surface water, shall comply with the requirements of the relevant Section of the Council for such works and services. Prior to the commencement of development, the developer shall submit and obtain written agreement from the Planning Authority for a Stage 2 - Detailed Design Stage Storm Water Audit. Upon completion of the development a Stage 3 Completion Stormwater Audit to demonstrate Sustainable Urban Drainage System measures have been installed and are working as designed and that there has been no misconnections or damage to storm water drainage infrastructure during construction, shall be submitted to the planning authority for written agreement. **Reason**: In the interest of public health and surface water management.
9.	All mitigation measures in relation to archaeology and cultural heritage as set out in the EIAR for the appeal shall be implemented in full. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of any archaeological investigative work/ excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist

	analysis. All resulting and associated archaeological costs shall be borne by the developer. **Reason**: To ensure the continued preservation [either in situ or by record] of places, caves, sites, features or other objects of archaeological interest.
10.	The delivery of large-scale turbine components for the construction of the wind farm shall be managed in accordance with a Construction Traffic Management Plan (CTMP), 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, detailed proposals for 'Access Point' sightlines (including those to be retained after the construction phase), 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 interest of public safety and residential amenity.
11.	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.
12.	In the event that the proposed development causes interference with telecommunications signals (including wireless internet), 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.
13.	The Biodiversity Enhancement and Management Plan shall be implemented in accordance with the commitments outlined therein. **Reason**: In the interest of biodiversity.
14.	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.
15.	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 Board

	Pleanála for determination. **Reason**: To ensure satisfactory reinstatement of the site.
16.	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 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 An Board Pleanála 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 the permission.

16.0 **Reasons and Considerations ABP-308208-20**

16.1. The Board reached its decision in accordance with its duties under Section 15(1) of the Climate Action and Low Carbon Development Act 2015, as amended, and the requirement to, in so far as practicable, perform its functions in a manner consistent with inter alia the Climate Action Plan 2025 and the furtherance of the national climate objective. And in coming to its decision, the Board also 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 Directive) 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 and amending Directive EU/2023/2413 which aims to speed up the EU's clean energy transition.
- Directive 2011/92/EU (The EIA Directive) as amended by Directive 2014/52/EU.

- National and regional planning and related policy, including:
  - National policy with regard to transmission grids which are necessary for a more distributed, renewables-focused energy generation system. Particularly the NPF First Revision 2025 and National Strategic Objective 8 Transition to a Low Carbon and Climate Resilient Society.
  - The objectives and targets of the National Biodiversity Action Plan 2023-2030.
- Regional and local planning policy, including:
  - Regional Spatial Economic Strategy for the Southern Region;
  - Cork County Development Plan 2022-2028.
- Other relevant national policy and 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 reports of the Local Planning Authority and the further information provided by the applicant to the Local Planning Authority received in 2014.

- The further information provided by the applicant to the Board received on 10th March 2023.
- The submissions made on the planning application to the Local Authority and to An Bord Pleanála in connection with the appeals.
- The report and the recommendation of the Inspector, including the examination, analysis and evaluation undertaken in relation to appropriate assessment and environmental impact assessment.

16.2. **Appropriate Assessment: Stage 1:**

16.3. The Board noted that the proposed development is not directly connected with or necessary for the management of a European Site. The Board completed an appropriate assessment screening exercise in relation to the potential effects of the proposed development on designated European Sites, taking into account the Screening Report for Appropriate Assessment submitted with the application and the report and screening assessment completed by the Inspector. The Board agreed with the inspector's assessment and conclusion that the European Site for which there is potential for significant effects (when including all aspects of the windfarm project including the windfarm itself) is The Gearagh SPA. The Board concluded, in agreement with the inspector, that Appropriate Assessment is required for that European Site.

16.4. **Appropriate Assessment Stage 2:**

16.5. The Board considered the Natura Impact Statement and associated documentation submitted with the application and appeal, the mitigation measures contained therein, the submissions and observations on file, and carried out an Appropriate Assessment of the implications of the proposed development for European Sites in view of the conservation objectives for the Gearagh SPA. The Board considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment and to allow it to reach complete, precise and definitive conclusions for Appropriate Assessment.

16.6. In completing the assessment, the Board considered, in particular, the likely direct and indirect impacts arising from the proposed development, both individually and in

combination with the other plans and projects (including all aspects of the entire windfarm project as addressed in the Inspector's assessment) and taking into account any mitigation measures which are included as part of the current proposal, in view of the conservation objectives for the European Sites.

16.7. The Board accepted and adopted the Appropriate Assessment carried out in the inspector's report with respect to the potential effects of the proposed development on the integrity of the aforementioned European Site, having regard to the Site's conservation objectives.

16.8. In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, (including all aspects of the entire windfarm project as addressed in the inspector's assessment) would not adversely affect the integrity of European Sites, in view of the Sites' conservation objectives of those Sites and there is no reasonable scientific doubt as to the absence of such effects.

16.9. This conclusion is based on a complete assessment of all aspects of the proposed project, both alone and in combination with other plans and projects of relevance, (including all aspects of the entire windfarm project as addressed in the inspector's assessment) and took into account all submissions received during the course of the application.

16.10. **Environmental Impact Assessment**

16.11. The Board completed an Environmental Impact Assessment of the proposed development, taking into account:

(e) The nature, scale, location and extent of the proposed development;

(f) The Environmental Impact Assessment Report and associated documentation submitted;

(g) The submissions received during the course of the appeals; and

(h) The Inspector's report.

16.12. The Board considered that the Environmental Impact Assessment Report and supporting documentation submitted by the applicant during the course of the

appeal, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. 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 appeals.

16.13. Reasoned Conclusion of the Significant Effects:

16.14. The Board considered that the Environmental Impact Assessment Report supported by the documentation submitted by the applicant during the course of the appeal, 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 considered that the main significant direct and indirect effects of the proposed development (including the windfarm and the substation) on the environment are those arising from the impacts listed below.

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

16.15.1. **Population and human health** –Implementation of a CEMP during construction and decommissioning phases to mitigate direct negative effects. Designed in mitigation include screen planting and measures to prevent impact from shadow flicker. Application of best practice and safety measures during operation of the project. No significant negative effects. Direct, significant and long-term positive impact arising from the Community Benefit Fund for the project.

16.15.2. **Biodiversity** – The proposed development will result in the loss of habitat on the site and generates potential for risk of collision / injury to bats and birds. With the implementation of mitigation, including hedgerow re-instatement, protection of watercourses, pre-clearance and pre-construction surveys, measures to reduce collision risk (including curtailment), and monitoring, there will be no significant negative residual effects upon biodiversity.

16.15.3. **Land, soils, geology, water, air quality or climate** - Mitigation is formed of measures to reduce and manage impact upon land, soils, geology, water, air quality and climate, including implementation of a Construction Environmental Management Plan, as well as surface water management and water quality monitoring. With the implantation of mitigation, no significant residual negative impacts. During operation, residual impact will be positive upon air quality and climate due to the avoidance of emissions from fossil fuel generators.

16.15.4. **Noise and vibration** – No significant residual effects are predicted with respect to noise and vibration. Mitigation includes adherence to regulations for the control and abatement of noise during construction and the implementation of a Construction Environmental Management Plan.

16.15.5. **Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities)** – Mitigation has been designed-in to minimise potential effects, with additional mitigation including implementation of a construction and waste management plan as part of the CEMP for the project. Tailored mitigation for telecommunications including a protocol to be signed between 2RN and the developer setting out the developer's obligation to correct any deterioration in television and radio signal reception. Mitigation related to aviation includes aeronautical obstacle lighting. With the implementation of mitigation, no significant residual negative impacts.

16.15.6. **Material assets – traffic and transportation** – Mitigation will reduce impact upon traffic movements arising during the construction and decommissioning phase from HGV movements and transportation of abnormally large loads. Impact will be over a short-term, temporary period and will not be significant. During operation impact will be imperceptible.

16.15.7. **Archaeology and cultural heritage** – Mitigation primarily involves archaeological monitoring to avoid impact upon currently unknown features. Additional mitigation ensures preservation (by record or in-situ) in the event of discovery of unknown / unexpected features during construction. With the application of mitigation, no significant residual impact.

16.15.8. **Landscape and visual impacts** – In relation to the central study area, residual impact of moderate significance with respect to landscape impact. In relation to the

wider study area, the significance of this landscape impact is slight, reducing to imperceptible at increasing distances from the subject site. In terms of visual effect, the significance of visual impacts for all receptors (including from Scenic Routes), is generally in the mid to low range, with the exception of a small number of local community views. The existing landscape is not highly susceptible to development (evidenced by the 'Low' sensitivity classification in the Cork County Development Plan) and the development will be assimilated without significant residual negative visual effect.

16.16. Having regard to the above, the Board is satisfied that the proposed development would not have any unacceptable direct or indirect effects on the environment. The Board is satisfied that the reasoned conclusion is up to date at the time of making the decision. 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 and subject to compliance with the conditions set out herein, the effects on the environment of the proposed development by itself, and, cumulatively with other development in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the reporting Inspector.

16.17. **Proper Planning and Sustainable Development**

It is considered that the proposed development would accord with European, national, regional and local planning policy provision. The Board was satisfied that an approval for the proposed development would be consistent with the national climate ambitions and with the relevant provisions of the Climate Action Plan 2025. Furthermore, the Board has performed its functions in relation to the making of its decision, in accordance with the requirements of Section 15(1) of the Climate Action and Low Carbon Act 2015. The Board considered that by reason of scale, form and extent, that, subject to compliance with the following conditions, the proposed development would be in accordance with the relevant provisions of the Cork County Development Plan 2022-2028, would not seriously injure the visual amenities of the area, or of property in the area, and would constitute an appropriate form of development at this location. The proposed development, would therefore, be in accordance with the proper planning and sustainable development of the area.

17.0 **Conditions ABP-308208-20**

1.	The proposed development shall be carried out and completed in accordance with the plans and particulars of the application to the planning authority on 26/09/2014 as amended by the submissions received by the planning authority on 9/12/2014 and the further details received by An Bord Pleanála, including further information received on 10th March 2023 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 interests of clarity and of proper planning and sustainable development of the area.
2.	The mitigation measures contained in the submitted Environmental Impact Assessment Report (EIAR), shall be implemented. **Reason**: To protect the environment.
3.	The mitigation measures contained in the submitted Natura Impact Statement (NIS), shall be implemented. **Reason**: To protect the integrity of European Sites.
4.	Prior to the commencement of any works associated with the development hereby permitted, the developer shall submit a detailed final Construction Environmental Management Plan (CEMP) for the written agreement of the planning authority. The final CEMP shall reflect measures included in the EIAR for the appeal. A record of daily checks that the construction works are being undertaken in accordance with the CEMP shall be kept at the construction site office for inspection by the planning authority. The agreed CEMP shall be implemented in full in the carrying out of the development.

	Reason: In the interest of environmental protection, residential amenities, public health and safety and environmental protection.
5.	Drainage arrangements including the attenuation and disposal of surface water, shall comply with the requirements of the relevant Section of the Council for such works and services. Prior to the commencement of development, the developer shall submit to the Planning Authority for written agreement a Stage 2 - Detailed Design Stage Storm Water Audit. Upon completion of the development a Stage 3 Completion Stormwater Audit to demonstrate Sustainable Urban Drainage System measures have been installed and are working as designed and that there has been no misconnections or damage to storm water drainage infrastructure during construction, shall be submitted to the planning authority for written agreement. **Reason**: In the interest of public health and surface water management.
6.	All mitigation measures in relation to archaeology and cultural heritage as set out in the EIAR for the appeal shall be implemented in full. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of any archaeological investigative work/ excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer. **Reason**: To ensure the continued preservation [either in situ or by record] of places, caves, sites, features or other objects of archaeological interest.
7.	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 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 An Board Pleanála 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 the permission.

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Rachel Gleave O'Connor
Senior Planning Inspector

13 August 2025

18.0 Appendix 1: Stage 1 Screening for Appropriate Assessment

Screening for Appropriate Assessment Test for likely significant effects	
Step 1: Description of the project and local site characteristics	
Brief description of project	The proposed development relates to two applications, the first for 6no. wind turbines and the second for a related substation. See section 3.0 above for a detailed description. It should be noted that the submitted report assesses the development as a whole, comprising both the proposed wind turbines and substation, as well as the proposed biodiversity enhancement and management plan for the development (proposed as part of the development and not as mitigation or compensation), and all associated works, including turbine delivery / haul route and decommissioning works.
Brief description of development site characteristics and potential impact mechanisms	The subject site is located in the townlands of Lackareagh, Garranereagh and Barnadivane, near Teerelton, Co. Cork. The site is situated approximately 3km northeast of Coppeen and 10km south of Macroom in County Cork. The area is rural in character, with a low population density associated with sparse rural settlement, the nearest village being Teerelton approximately 3km to the north. The site is

	currently used for agricultural grazing with field boundaries defined by hedgerows and sod and stone banks. The main habitats covering the site include improved agricultural grassland (GA1) and wet grassland (GS4), with lesser areas of scrub (WS1), conifer plantation (WD4), buildings and artificial surfaces (BL3), hedgerows (WL1), treelines (WL2), drainage ditches (FW4) and upland eroding rivers (FW1). The subject site is located within the Lee, Cork Harbour and Youghal Bay (ID 19) hydrometric areas (catchment) of the Irish River Network System, within the Lee[Cork]_SC_30 & 50 sub-catchments under the Water Framework Directive (WFD). It is situated within two sub-basin waterbody catchments, namely Cummer_010 – IE_SW_19C020500 (Turbine 1 and 2) and Bride(Lee)_010_IE_SW_19B040400 (Turbines 3, 4, 5 and 6). Site drainage currently flows to the River Cummer and the River Bride and its tributaries. The Groundwater Vulnerability within the subject site is predominantly 'High' with some areas of 'Extreme' vulnerability and 'X - Rock at or near Surface'. The site itself is not situated within a European site, proximity to Natura 2000 sites varies when considering the various aspects of the proposed wind farm development as a whole. Approximate distances are set out below.
Screening report	Y
Natura Impact Statement	Y

Relevant submissions	Inland Fisheries Ireland (IFI) - As part of the initial application, IFI set out a number of general requirements related to watercourses and control of suspended solids and contaminated run off and criteria for culverts and bridges over watercourses and timing of works. Public submissions - General concerns regarding impacts on biodiversity have been raised including: • Impact on Bats • Impacts on bird species including Kestrel, Snipe, Meadow pippet, Golden plover, Curlew, White Tailed Eagle • Impacts on migratory routes of birds • survey effort for birds • General concerns regarding the Habitats Directive and European Sites, • Impacts on local rivers and potential impacts on aquatic ecology • Invasive species

Step 2. Identification of relevant European sites using the Source-pathway-receptor model

European Site (code)	**Qualifying interests[1] Link to conservation objectives (NPWS, date)**	**Distance from proposed**	**Ecological connections[2]**	**Consider further in screening[3]**

		development (km approx.)		Y/N
The Gearagh SAC (000108)	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Rivers with muddy banks with Chenopodion rubri p.p. and Bidention 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] Conservation Objectives Summary: To maintain the favourable conservation condition of qualifying interests/species of conservation interest for which the SAC has been selected. Link: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000108.pdf	5.9km	Otter is a mobile species of The Gearagh SAC, however evidence of otter was not observed within the subject site. There are drainage ditches within the site that can provide commuting habitat for otter, however foraging habitat is negligible and there are no holts recorded along streams in the subject site. This SAC is located on a different tributary of the River Lee, approximately 6km upstream of the point where the Cummer joins the Lee.	N
The Gearagh SPA (004109)	Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Mallard (Anas platyrhynchos) [A053] Coot (Fulica atra) [A125] Wetland and Waterbirds [A999]	6km	The Gearagh SPA includes Mallard as a special conservation interest (SCI) species which has a core feeding range of up to 15km. Coot is also a SCI, but without a feeding range noted. Therefore, there is potential for these SCI's to occur in the subject site which is 6km away (approx.). As a result, impact upon these mobile SCI species could result from impact upon ex-	Y

	Conservation Objectives Summary: To restore the favourable conservation condition of qualifying interests/species of conservation interest for which the SPA has been selected. Link: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004109.pdf		situ habitat, indirect effect from water emissions / groundwater and disturbance from noise during all phases. There is no potential for groundwater dependent terrestrial ecosystems associated with this SPA to be impacted as a result of the proposed development as the subject site is beyond the range of influence of such effects (250m). Similarly, this SPA is beyond the range of influence of potential effects from dust emissions (500m). There is no physical pathway, or hydrological connection, between this SPA and the subject site and therefore potential for direct impact from water emissions or spread of invasive species can be ruled out.	
Bandon River SAC (002171)	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Lampetra planeri (Brook Lamprey) [1096] Conservation Objectives Summary: To maintain the favourable conservation condition of qualifying interests/species of conservation interest for which the SAC has been selected.	10.1km	The Bandon River SAC is located within a different catchment to the subject site.	N

	Link: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002171.pdf			
Mullaghanish to Musheramore Mountains SPA (004162)	Hen Harrier (Circus cyaneus) [A082] Conservation Objectives Summary: To restore the favourable conservation condition of qualifying interests/species of conservation interest for which the SPA has been selected. Link: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004162.pdf	13.9km	The foraging and migratory range of the special conservation interest species would not overlap with the subject site. During vantage point surveys, Hen Harrier was observed twice flying over the site, with one observation in the surrounding hinterland. As set out in the Ornithological Survey appended to the NIS, Hen Harrier is an infrequent visitor to the area and there is no indication of breeding behaviour, as such I agree with the applicant that there is no likelihood of potential impact to the conservation objectives for the Mullaghanish to Musheramore Mountains SPA with respect to Hen Harrier.	N
Cork Harbour SPA (004030)*	Little Grebe (Tachybaptus ruficollis) [A004] Great Crested Grebe (Podiceps cristatus) [A005] Cormorant (Phalacrocorax carbo) [A017] Grey Heron (Ardea cinerea) [A028] Shelduck (Tadorna tadorna) [A048] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054]	35km direct, c.53km instream	Situated over 35km away from the subject site. While there is technically a hydrological connection to this SPA, given the distance at c.53km downstream, dilution effects over this distance, and the subject sites spatial removal from estuarine habitats and core feeding range, there would be no potential for effect upon SCI birds for this SPA.	N

	Shoveler (Anas clypeata) [A056] Red-breasted Merganser (Mergus serrator) [A069] Oystercatcher (Haematopus ostralegus) [A130] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Lesser Black-backed Gull (Larus fuscus) [A183] Common Tern (Sterna hirundo) [A193] Wetland and Waterbirds [A999] (NB additional species noted below) Conservation Objectives Summary: To maintain the favourable conservation condition of			

	qualifying interests/species of conservation interest for which the SPA has been selected. Link: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf			
Great Island Channel SAC (001058)	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Conservation Objectives Summary: To maintain or restore the favourable conservation condition of qualifying interests/species of conservation interest for which the SAC has been selected. Link: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001058.pdf	41km	Situated within a different estuarine system than that of the River Lee (linked to the subject site). Therefore, in light of the distance to the subject site, the lack of mobile species that could reasonably utilise the subject site, and the absence of impactful connectivity (physical or hydrological) to QI / special conservation interest species, there is no pathway present to these European sites.	N

***** Two additional QI bird species listed in Schedule 3 of SI 391/2021 – European Union Conservation of Wild Birds (Cork Harbour Special Protection Area 004030) Regulations 2021, namely Mallard (Anas platyrthynchos) and Greenshank (Tringa nebularia) and my assessment includes consideration of these additional species.

Step 3. Describe the likely effects of the project (if any, alone or in combination) on European Sites

The construction and installation of the proposed development will result in the removal of habitat area, which may include ex-situ areas for mobile species of any SPA/SAC, with resultant potential impact. There is also potential for indirect impact to water quality and aquatic species in this regard. The depth of the proposed turbine foundations is required to be 4m, therefore there is potential for impact to groundwater dependent terrestrial ecosystems from change in water depth, rate flow and timing of the change. Internal vegetation clearance and ground disturbance would also arise from the proposed biodiversity enhancement and management plan. There is potential for indirect impact to European sites as a result of excavations for borrow pits, which have potential to alter the local hydrology, disrupting groundwater flow, dewatering of groundwater dependent terrestrial ecosystems and emissions to water.

During construction, there is also potential for emissions which could impact European sites. Dust will arise from construction activities including earthworks, vegetation clearance, trench excavation, construction of new access tracks, the temporary storage of excavated materials, movement of construction vehicles, and movement/loading/unloading of materials. Dust can have physical or chemical effects upon vegetation, through smothering, or changes to the composition of soil or watercourses, such as increased acidity. Noise emissions will be generated through construction activities, such as during construction of foundations, erection of turbines, excavation works, vegetation removal, construction of tracks, deliveries of components and materials. Potential resultant impact would vary species to species, ranging from direct mortality (fish) to no obvious behavioural response, with impact also varying depending upon season (i.e. birds becoming alert / flight response). There is also the potential for emissions to water as a result of construction activities (and waste generation), including installation of a culvert, vegetation clearance, increased hardstanding, with increased surface water runoff from exposed soil having the potential to result in increased sedimentation of drains and watercourses. Use of cement based products and refuelling activities / storage, also has potential to contaminate water. These effects have the potential to impact water quality of watercourses, altering the levels of pH, nitrate, phosphate, total solids, total suspended solids, total dissolved solids, turbidity and biological oxygen demand in the water. Cement products are particularly harmful to aquatic life. Hydrocarbons are toxic to flora and fauna including fish, with potential for mortality.

During operation, there will be increased activity on the site with the potential to disturb species, impacting distribution and abundance. The proposed development has the potential to displace birds/mammals (incl. bats) due to on-site activities coupled with loss of suitable habitat. There is also potential for bird collision with turbine towers, blades (moving or stationary) and/or associated infrastructure; and barrier to dispersal, regular movements or migration for migratory bird species. Noise during operation will result from mechanical and aerodynamic sources (generators, gearboxes, movement of turbines), with potential to disturb birds, displacing them from habitat if within 500m of foraging, nesting or roosting areas. Hen Harrier has been found to avoid habitats within 250m to 500m of an operational turbine. There is a risk of water contamination during operation arising from the use of oils or lubricants on the site, in the event of a leak, with subsequent impact upon aquatic ecology, although the risk of such an event is considered negligible. Waste generation during maintenance works could also degrade water quality with similar effects to that described with respect to the construction phase set out above. There is also risk of increased flow rate from hard surfaces during operation which could scour stream beds downstream.

Decommissioning of the proposed development has the potential to result in temporary displacement of birds/mammals (incl. bats) due to on-site construction activities. Truck movements associated with removing the turbines will result in vehicular emissions and dust (although less movements than construction phase). There is also potential for emissions from machinery on site including for the movement of soil to cover foundations, with resulting impact from dust the same as that during construction phase. Similar to the construction phase, noise will result from decommissioning activities, however to a lesser degree given the extent activity is less than at construction phase. There is still potential for this noise to displace seasonal QI species (i.e. otter during key seasonal lifecycle stages) if up to 150m from the proposed works. There is potential for impact to water quality as a result of emissions and waste generation, releasing sedimentation and/or hydrocarbons during decommissioning activities, adversely effecting aquatic ecosystems.

While there are no invasive species currently present within the vicinity of the proposed turbines or site access tracks, during all phases, construction, operation and decommissioning, there is potential to disturb invasive species present in the wider site boundary. This includes the Third Schedule Himalayan knotweed surveyed to be present on the site. Such disturbance could cause an invasive species to spread onsite or onto neighbouring lands / public road / watercourse and other locations.

The potential for in-combination effect is addressed in the submitted report and assessed further below. There is potential for in-combination effects at all phases, if activities on the site are undertaken in parallel with off-site activities.

AA Screening matrix

Site name **Qualifying interests**	**Possibility of significant effects (alone) in view of the conservation objectives of the site***	
	Impacts	**Effects**
Site 1: Gearagh SPA (0004109) Mallard (Anas platyrhynchos) [A053] Coot (Fulica atra) [A125]	Direct: Potential for noise impact and associated disturbance effecting mobile SCI species Coot and Mallard, which are vulnerable to noise if in ex-situ foraging habitat within 500m of the proposed development site. Indirect: Potential for removal of ex-situ habitat for mobile SCI species of the SPA, Coot and Mallard during construction phase.	Disturbance, displacement of ex-situ species. Injury or mortality of ex-situ species.

	Potential habitat loss, displacement of species, bird collisions, groundwater changes, and water quality impact, occurring during construction of the proposed development, operational activities and decommissioning works, impacting ex-situ SCI species Coot and Mallard. Potential for in-combination effects at all phases, if activities on the site are undertaken in parallel with off-site activities.	
	Likelihood of significant effects from proposed development (alone): Y	
	Possibility of significant effects (alone) in view of the conservation objectives of the site	
The specific conservation objectives and special conservation interests for the potentially effected European site relate to population trends, range and habitat extent. Potential effects arising from habitat removal, emissions, disturbance, groundwater changes and collision risk, associated with the construction and operation of the proposed development have been highlighted above, which have the potential to affect the conservation objectives supporting the special conservation interests of the Gearagh SPA. As such, likely effects on Gearagh SPA cannot be ruled out, having regard to the sites' conservation objectives, and a Stage 2 Appropriate Assessment is required. The potential impacts are expanded upon in further detail as part of a Stage 2 Appropriate Assessment below.		
Step 4 Conclude if the proposed development could result in likely significant effects on a European site		

It is not possible to exclude the possibility that proposed development alone would result in significant effects on the Gearagh SPA from effects associated with disturbance and / or displacement of ex-situ species, injury or mortality of ex-situ species.
An appropriate assessment is required on the basis of the possible effects of the project 'alone'. Further assessment in-combination with other plans and projects is not required at screening stage.

Proceed to AA.

Screening Determination

Significant effects cannot be excluded
In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in this AA screening, I conclude that it is not possible to exclude that the proposed development, alone or in combination with other plans and projects will give rise to significant effects on the Gearagh SPA European Site in view of the site's conservation objectives. Appropriate Assessment is required.

This determination is based on:

- Potential for removal of ex-situ habitat for mobile SCI species of the SPA, Coot and Mallard during construction phase.
- Potential habitat loss, displacement of species, bird collisions, groundwater changes, and water quality impact, occurring during construction of the proposed development, operational activities and decommissioning works, impacting ex-situ SCI species Coot and Mallard.
- Potential for noise impact and associated disturbance effecting mobile SCI species Coot and Mallard, which are vulnerable to noise if in ex-situ foraging habitat within 500m of the proposed development site.
- Potential for in-combination effects at all phases, if activities on the site are undertaken in parallel with off-site activities.

19.0 **Appendix 2: Stage 2 Appropriate Assessment**

Appropriate Assessment
The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, sections 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section.
Taking account of the preceding screening determination, the following is an appropriate assessment of the implications of the proposed development of a wind farm and substation (alongside associated works) in view of the relevant conservation objectives of the Gearagh SPA based on scientific information provided by the applicant and considering observations on nature conservation. The information relied upon includes the following: • Natura Impact Statement including AA Screening Report • EIAR with particular focus on Chapter 5 Biodiversity and associated appendices 5.1- 5.8 • Other relevant EIAR Chapters 6 Soils, Geology and Hydrogeology, 7 Hydrology and water quality, 15 Interactions, • Construction and environmental management plan (CEMP) • Applicants' response documents to submissions I am satisfied that the information provided is adequate to allow for Appropriate Assessment. I am satisfied that all aspects of the project which could result in significant effects are considered and assessed in the NIS and mitigation measures designed to avoid or reduce any adverse effects on site integrity are included and assessed for effectiveness.

Submissions/observations

Inland Fisheries Ireland (IFI) - As part of the initial application, IFI set out a number of general requirements related to watercourses and control of suspended solids and contaminated run off and criteria for culverts and bridges over watercourses and timing of works.

Public submissions - General concerns regarding impacts on biodiversity have been raised including:

- Impact on Bats
- Impacts on bird species including Kestrel, Snipe, Meadow pippet, Golden plover, Curlew, White Tailed Eagle
- Impacts on migratory routes of birds
- survey effort for birds
- General concerns regarding the Habitats Directive and European Sites,
- Impacts on local rivers and potential impacts on aquatic ecology
- Invasive species

The Gearagh SPA (00108):

Summary of Key issues that could give rise to adverse effects (from screening stage):

(i) Potential for removal of ex-situ habitat for mobile SCI species of the SPA, Coot and Mallard during construction phase.

(ii) Potential habitat loss, displacement of species, bird collisions, groundwater changes, and water quality impact, occurring during construction of the proposed development, operational activities and decommissioning works, impacting ex-situ SCI species Coot and Mallard.

(iii) Potential for noise impact and associated disturbance effecting mobile SCI species Coot and Mallard, which are vulnerable to noise if in ex-situ foraging habitat within 500m of the proposed development site. **(iv)**Potential for in-combination effects at all phases, if activities on the site are undertaken in parallel with off-site activities.				
Qualifying Interest features likely to be affected	**Conservation Objectives Targets and attributes**	**Potential adverse effects**	**Mitigation measures (summary)**	
Wigeon, Teal and Coot	Restore favourable conservation condition. Targets: Targets will not be undermined as species outside of zone of influence of proposed development. Attributes: Winter population trend Winter spatial distribution Disturbance at wintering site Barriers to connectivity and land use Forage spatial distribution	None. Conservation objectives will not be undermined or delayed by any aspect of the proposed development.	None required.	

	Roost spatial distribution Supporting habitat quality* (outside SPA) *(not relevant to Coot)			
Mallard	Restore favourable conservation condition. Targets: Targets set for these attributes relate to the SPA site and will not be undermined by the proposed development. Attributes: Winter population trend Winter spatial distribution Disturbance at wintering site Forage spatial distribution Roost spatial distribution	None. Conservation objectives will not be undermined or delayed by any aspect of the proposed development.		
	Barriers to connectivity and land use: Barriers do not	Taking account of low numbers recorded, unsuitability of habitats		

	significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA.	for mallard and wider landscape – no adverse effect predicted. Imperceptible collision risk.		
	Supporting habitat quality* (outside SPA): Sufficient area of utilisable habitat available in ecologically important sites outside the SPA.	The windfarm site does not constitute an ecologically important site for this species – no adverse effect.	None required.	
Wetlands	Maintain favourable conservation condition. Targets: No significant loss of wetland habitat within SPA. No significant impact on quality or functioning of wetland habitat within SPA.	None. Targets will not be undermined wetland habitat outside of zone of influence of proposed development.		

	Attributes: Wetland habitat area. Wetland habitat quality and functioning.			
The above table is based on the documentation and information provided on the file and I am satisfied that the submitted NIS has identified the relevant attributes and targets of the Qualifying Interests.				
Assessment of issues that could give rise to adverse effects view of conservation objectives I refer to the Boards ecologist report for the file which is appended to this report. The submitted NIS identifies surveys undertaken to determine the likely impact upon avifauna species associated with the Gearagh SPA, including vantage point, hinterland, breeding & winter, and breeding wader surveys. These confirm that the proposed development is within the core feeding range for Mallard (Anas platyrhynchos), with a total of four observations made of Mallard. The surveys did not observe any use of the proposed development site by Coot (Fulica atra) during two years of surveys. As Coot was not recorded in surveys over the two year period, the submitted report concludes that there is no potential for adverse effect upon that species. With respect to Wigeon (Anas penelope) and Teal (Anas crecca) (also SCIs of the Gearagh SPA) the proposed development is outside the core feeding area for these species and there were no recordings of these species during the two years of surveys undertaken. As the proposed development site occurs within the core feeding range for Mallard, there is potential for collision risk with turbine towers, blades (moving or stationary) and/or associated infrastructure. These structures may also act as a barrier to dispersal during the operation phase. In addition, there is potential for habitat loss / displacement, and disturbance as Mallard was observed utilising the site on one occasion. Table 4-4 of the submitted report addresses the conservation objective for the Gearagh SPA with respect to Mallard, and the potential for adverse effects upon site integrity from the proposed development. The conservation objective is 'To restore the favourable conservation condition of the bird species.' While the proposed development is within the core foraging range of the Gearagh SPA for Mallard, this species was recorded infrequently at low numbers (typically 1-2 at any one time). There is also an absence of suitable habitats such as wetlands or lakes within the proposed development site to support significant foraging,				

loafing or roosting for Mallard. Therefore, potential impact upon Mallard is concluded to be negligible and will not affect the conservation status of this species.	
In-combination effects I am satisfied that in-combination effects has been assessed adequately in the NIS. Section 4.4 of the submitted report addresses in-combination effects. This confirms that the following associated projects have been considered with respect to the potential for in-combination effects. In the event that the proposed substation is not permitted or constructed, but the proposed wind farm can progress, an alternative underground grid connection would be utilised via the Carrigarierk Windfarm (Cork County Council Reg. Ref. 15/730 & ABP Reg. Ref. PL04.246353). This alternative grid connection route has therefore been assessed in relation to potential in-combination effects. In addition, to facilitate the delivery of large turbine components to the site, it is proposed that enabling works are carried out in the townlands of Barnavidane (Kneeves), Lackareagh & Garranereagh. These works will comprise the construction of a private roadway (150m approx.) from the R585 to the L6008 and all associated works (consented by Cork County Council Reg. Ref. 14/6803). The potential for in-combination effects from these enabling works are therefore also considered as part of the assessment of cumulative effects arising from the proposed development. Other developments within a 20km range of the proposed development site are also identified that could potentially give rise to in-combination effects, including 8 wind farm projects. The Carrigarierk Windfarm development has a hydrological connection to the Gearagh SPA, however there is no hydrological connection between the proposed development and this SPA. There were also no records of Mallard occurring within the Carrigarierk Windfarm development site. Therefore, in consideration of this associated project, there is no potential for adverse in-combination effects arising to the Gearagh SPA. With respect to the enabling works outlined above, similarly no potential for in-combination effects are identified due to a lack of SCI records (for the Gearagh SPA) over that development site. With respect to surrounding wind farm projects, there is no potential for in-combination impacts identified due to a lack of SCI records (for the Gearagh SPA) over those sites, decommission phases occurring over different periods, and/or location and distance ensuring no overlap between migratory or foraging paths for SCI species. As well as the lack of a hydrological connection between the proposed development and the Gearagh SPA. No other projects are identified with potential for in-combination impacts.	
Findings and conclusions The applicant concluded that the construction and operation of the proposed development alone, **or in combination with other plans and projects**, will not adversely affect the integrity of this European site.	

Based on the information provided, I am satisfied that adverse effects arising from the proposed development can be excluded for the European site considered in the appropriate Assessment.

Reasonable scientific doubt
I am satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.

Site Integrity
The proposed development will not affect the attainment of the Conservation objectives of The Gearagh SPA. Adverse effects on site integrity can be excluded and no reasonable scientific doubt remains as to the absence of such effects.

Appropriate Assessment Conclusion: Integrity Test
In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Gearagh SPA in view of the conservation objectives of the site and that Appropriate Assessment was required.
Following an examination, analysis and evaluation of the NIS all associated material submitted including the further information with EIAR, and taking into account observations, I consider that adverse effects on site integrity of the Gearagh SPA can be excluded in view of the conservation objectives of that site and that no reasonable scientific doubt remains as to the absence of such effects.
My conclusion is based on the following:
The proposed development will not undermine or delay the conservation objective to restore the favourable conservation condition for Mallard, a special conservation interest species for the Gearagh SPA or any other species for which the site is designated.